

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

JESSICA RAMSAY,	:	
Plaintiff	:	
	:	
v.	:	CIVIL ACTION NO. 19-2002
	:	
NATIONAL BOARD OF MEDICAL	:	
EXAMINERS,	:	
Defendant	:	

**DECLARATION OF ROBERT D. SMITH, Ph.D.,  
IN SUPPORT OF MOTION FOR PRELIMINARY INJUNCTION**

I, Robert D. Smith, declare as follows:

1. The facts in this Declaration are based on my personal knowledge, including my evaluation of the plaintiff, Jessica Ramsay described below, as well as my training and experience as a psychologist. A copy of my professional *curriculum vitae* is attached hereto as Exhibit A.

2. As set forth in my *curriculum vitae*, I have earned the degrees of Bachelor of Science in Psychology from Central Michigan University (1972), Master of Arts in Psychology also from Central Michigan University (1974), and Doctor of Philosophy in Counseling Psychology from Michigan State University (1984). I completed a two year post-doctoral training program in neuropsychology through the Fielding Institute (now Fielding Graduate University, Santa Barbara CA) in 1999. I am licensed as a Psychologist by the Michigan Board of Psychology, License #6301003249. I have more than 25 years experience in conducting neuropsychological assessments of people with learning disorders and Attention-Deficit / Hyperactivity Disorder (“ADHD”).

3. Since 1994, I have worked as a Consultant at the Michigan Dyslexia Institute. In this position, I regularly conduct assessments of both children and adults with learning disorders including dyslexia, and ADHD.

4. On September 25, 2018, I conducted a Neuropsychological Evaluation of Jessica Ramsay at the Michigan Dyslexia Institute in Lansing, Michigan.

5. I subsequently prepared a written report of the Ramsay evaluation, which is attached hereto as Exhibit B.

6. My evaluation and my report applied generally accepted standards for evaluation of mental disorders, as set forth in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), published by the American Psychiatric Association, and the International Classification of Diseases, Tenth Revision, Clinical Modification (“ICD-10-CM”), which is the clinical modification by the National Center for Health Statistics (NCHS) for use in the United States of the International Classification of Diseases, published by the World Health Organization.

7. As part of the Ramsay evaluation, I interviewed Ms. Ramsay and her mother Jerri Shold.

8. As part of the Ramsay evaluation, I administered a number of standard assessment instruments including: the Adult ADHD-Rating Scale-IV With Adult Prompts; the Nelson-Denny Reading Test; the Wechsler Individual Achievement Test-Third Edition (WIAT-III); the Woodcock-Johnson IV Tests Of Achievement (WJ-4) (Selected Subtests); the Gray Oral Reading Tests-Fifth Edition (GORT-5); and the Integrated Visual & Auditory Continuous Performance Test (IVA+Plus).

9. As part of the Ramsay evaluation, I also reviewed school records, and records of prior evaluations by Drs. Lewandowski and Mr. Livingston, Ms. Ramsay's Personal Statement in support of her request to the National Board of Medical Examiners ("NBME") for testing accommodations on the United States Medical Licensing Examination ("USMLE"), and other correspondence relating to the request for accommodations. These are listed at pages 1-2 of my Report.

10. When I met with Ms. Ramsay on September 25, 2018, I was aware that she had previously made requests to NBME for extended testing time as an accommodation for the "Step 1" examination which is part of the USMLE, and that NBME had denied her request. Ms. Ramsay informed me that it was her belief that she needed extended testing time for this examination because of extremely slow reading speed.

11. I also was aware that Ms. Ramsay had submitted evaluations by Dr. Lewandowski and Mr. Livingston in support of her prior requests to NBME.

12. Before conducting the evaluation, I informed Ms. Ramsay that I did not know, until I carried out the assessment procedures, whether she actually had a learning disorder such as developmental dyslexia and/ or ADHD or that I would find additional evidence of dyslexia and ADHD beyond what Dr. Lewandowski and Mr. Livingston had found.

### **Dyslexia**

13. The efficient reading skills of the non-impaired (non-dyslexic) adult reader reflect the acquisition and integration of multiple components and subskills. No single reading test measures these component reading skills. Leading researchers and specialists in the field of dyslexia, such as Sally Shaywitz, M.D., Bruce Pennington, Ph.D., and Robin Peterson, Ph.D., recommend that a comprehensive evaluation of a reading disorder such as dyslexia include tests

that are designed to measure these component skills needed for efficient, practical reading. The battery of reading tests I utilized to evaluate Ms. Ramsay reflect such a battery of tests.

14. After I conducted the evaluation, I concluded, and stated in my report, that “Jessica’s pattern of reading scores is consistent with the pattern typically exhibited by dyslexic readers who have developed strategies to compensate for their reading impairment.” Report at 26. Further, “She has been able to acquire an average level of reading comprehension skills when allowed sufficient time to employ compensatory strategies, but exhibits persistently impaired reading rate and reading fluency compared to other adults her age, as reflected in WJ-4 Reading Rate Cluster, the GORT-5 Fluency and the Nelson-Denny Rate and Comprehension scores.” *Id.* at 26-27.

15. I also considered the September 11, 2018 letter from Catherine Farmer, Psy.D., Director of Disability Services of NBME, which denied Ms. Ramsay’s requests for extended test time. A copy of Dr. Farmer’s September 11, 2018 letter is attached hereto as Exhibit C.

16. Dr. Farmer stated that the 2017 evaluation by Dr. Lewandowski reported that Ms. Ramsay’s “reading, spelling and arithmetic are normal to above normal,.” Farmer letter, Exhibit C, at 2. A copy of Dr. Lewandowski’s report is attached hereto as Exhibit D. Although Dr. Farmer did not comment about any of Dr. Lewandowski’s specific results, the only measure of reading skills used by Dr. Lewandowski was the Wide Range Achievement Test-4th Edition (WRAT-4), which does not measure reading speed, reading fluency or the impact of these on comprehension. The USMLE Guidelines for Testing Accommodations specifically state that the Wide Range Achievement Test is not “considered acceptable if used as the sole measure of

reading ability or academic skills.”<sup>1</sup> Consequently, the WRAT-4 is also insufficient to indicate the absence of a reading disorder. Since Dr. Farmer is employed by the NBME to review accommodation requests, I had assumed that Dr. Farmer would be aware that any WRAT-4 scores would be an insufficient measure of the presence or absence of adequate reading skills. The WRAT-4 measure of “Reading” is an untimed simple test, which only measures one of the component subskills of reading and simply requires the examinee to read from a list of words, which allows for optimum use of compensatory strategies under untimed conditions. The WRAT-4 is therefore not a measure of speed, efficiency of word recognition or comprehension. The WRAT-4 Reading Test is simply a subtest that measures accuracy of single word identification under untimed conditions, which therefore allows for dyslexic reader to make optimum use of compensatory strategies.

17. When I reviewed Dr. Lewandowski’s report, I found that he had administered the Wechsler Adult Intelligence Scale – 4th Edition (“WAIS-IV”) which showed that Ms. Ramsay’s WAIS-IV Processing Speed Index was at the 8th percentile, *i.e.*, was greater than only 8 percent of same-aged individuals. *See* my Report at 29. In other words, this result indicates that only 8 percent of same-aged individuals have a processing speed that is as low or lower than Ms. Ramsay. As discussed in my Report at pages 23-24, the designation of “average” and “below average” is arbitrary, and fails to recognize that clinical judgment is allowed, and should be used. The same is true with respect to general designations such as “normal” and “below normal.”

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<sup>1</sup> Found on the Internet (7/18/2019) at <https://www.usmle.org/test-accommodations/guidelines.html#guidelines-learning-disorders>. A prior online version of USMLE guidelines, quoted at page 27 of my Report, stated that “WRAT-4 is considered to be an insufficient instrument as the primary assessment of reading, writing, or math skills.”

18. Therefore, and to further address Dr. Farmer's comments, I administered additional tests to Ms. Ramsay, in order to obtain additional information concerning her reading speed, reading fluency and comprehension. The results are described in detail in my report, and include the following:

- a. Ms. Ramsay's WIAT-III<sup>2</sup> Oral Reading Fluency was at the 1st percentile, *i.e.* greater than only 1 percent of same-aged individuals and far below average. Report at 16 and 18.
- b. Ms. Ramsay's WJ4<sup>3</sup> Reading Rate Cluster score of 66 was at the 1st percentile, and far below average. Report at 21.
- c. Ms. Ramsay's GORT-5<sup>4</sup> Fluency was at the 2nd percentile, and well below average. Report at 22.
- d. Ms. Ramsay "was only able to attempt 47% of the Nelson-Denny<sup>5</sup> Comprehension items during the standard time limit." Report at 30.

19. In her February 14, 2019 letter denying Ms. Ramsay's request for reconsideration, Dr. Farmer implied that these results, which she characterized as "exceptionally low scores," were not "valid" or "credible" because Ms. Ramsay took other standardized tests without accommodations, namely the American College Test or "ACT," a test which is used in the college admissions process, and the Medical College Admissions Test or "MCAT," a test which is used in the medical school admissions process. February 14, 2019 letter (attached hereto as Exhibit E) at 2. As I stated in my report, the ACT and MCAT are not a scientifically validated

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<sup>2</sup> Wechsler Individual Achievement Test – 3d Edition.

<sup>3</sup> Woodcock Johnson IV Tests of Achievement.

<sup>4</sup> Gray Oral Reading Tests – 5th Edition.

<sup>5</sup> Nelson Denny Reading Test.

diagnostic measure of reading skills. Report at 27. By contrast, the Wechsler Individual Achievement Test-Third Edition, Woodcock-Johnson IV Tests of Achievement, and Gray Oral Reading Tests-Fifth Edition are scientifically validated measures of overall reading and measures of component subskills designed by reading experts and the Nelson Denny Reading Test is a supplementary test specifically designed to measure component reading skills.

20. I also stated in my report that the ACT and MCAT “scores [Ms. Ramsay] managed to attain are as much a reflection of the compensatory effects of her superior intellect rather than an absence of reading impairment.” Report at 27-28. However, her MCAT score was depressed by her reading disability and did not accurately reflect her true knowledge and ability, and thus limited her choice of schools and excluded her from consideration for admittance to a wider range of educational and career options.

21. Dr. Farmer stated that “your evaluator appears to accept your exceptionally low scores on timed reading tests administered for the purpose of requesting test accommodations as valid and credible.” Farmer letter, Exhibit E, at 2. However, Dr. Farmer did not offer an opinion about why those scores were not valid and credible, but simply dismissed them as not being credible. Questions about the validity or credibility of scores are commonly attributed to less than optimum effort on the examinee's part. To address such questions, evaluations typically include administration of a so-called validity test as part of the battery of tests, which I did as discussed in the next paragraph, and which Dr. Farmer failed to consider.

22. Thus, Dr. Farmer failed to consider that, as part of my evaluation, I administered a test called the “Test of Memory Malinger” or TOMM, which is a measurement of symptom validity. As stated in my report:

The examinee is not informed as to the purpose of this measure and in fact was told that it measured an important memory component underlying

reading skill. The absence of indication of suboptimal effort on the TOMM is an indication that Jessica's effort was not suboptimal. . . . Jessica's overall demeanor and pattern of test scores reflect maximum effort on her part and it is concluded that her current test scores are an accurate measure of her functioning.

Report at 23. Dr. Farmer's letter does not mention or discuss the results of the TOMM. The results of the TOMM administered to Ms. Ramsay showed that Ms. Ramsay was making strong effort on not only the TOMM but also the other tests that I administered. In this regard, I also stated in my report that, "In the context of her request for accommodations due to a reading impairment, the reading and writing scores that are within the average range are inconsistent with poor effort from either conscious or unconscious intent. Jessica's overall demeanor and pattern of test scores reflect maximum effort on her part and it is concluded that her current test scores are an accurate measure of her functioning." Report at 23.

23. In summary, and as stated in my report, my evaluation of Ms. Ramsay supports a diagnosis of Specific Learning Disorder with impairment in reading (developmental dyslexia): reading comprehension, severely impaired reading rate and fluent word recognition, 315.00 in DSM-5 and F81.0 in ICD-10-CM.

#### **Attention-Deficit/ Hyperactivity Disorder**

24. Part of the process for diagnosing ADHD in an adult is an interview with the person being evaluated, when possible in the presence of a partner and/or family member. As stated above, I interviewed Ms. Ramsay together with her mother.

25. As stated in my Report, Ms. Ramsay stated during the diagnostic interview that she has exhibited 9 of 9 criteria associated with the "predominantly inattentive" presentation of ADHD, and 8 of 9 criteria associated with the "predominantly hyperactive-impulsive presentation of ADHD. Ms. Ramsay's mother endorsed 8 of the 9 inattentive symptoms, and 6 of the 9 hyperactive/ impulsive symptoms. Ms. Ramsay's fiancé (who was not interviewed, but



did complete a checklist) endorsed 7 of the inattentive symptoms and 5 of the hyperactive/impulsive symptoms. Report at 14-15. The DSM-5 requires only 5 inattention or 5 hyperactive-impulsive symptoms to be frequently and persistently present over the previous six months, in order to receive a diagnosis of ADHD.

26. My interview with Ms. Ramsay and her mother, Ms. Shold, also confirmed that these symptoms of inattention, distractibility and hyperactivity were present since Ms. Ramsay's earliest school years, which is also a DSM-5 criteria for ADHD. My interview with Ms. Ramsay and Ms. Shold, also confirmed that these symptoms were present in several different settings including home, school, and interpersonal relationships. *See, e.g.* Report at 28-29. Prior evaluations by Mr. Livingstone and Dr. Lewandowski also confirmed these symptoms.

27. I also administered the Integrated Visual & Auditory Continuous Performance Test (IVA+Plus), a computerized test of sustained attention and distractibility. As described in detail at pages 13-14 of my report, many of Ms. Ramsay's IVA+Plus scores fell at the 1st percentile, which is far below average, and supports a diagnosis of Attention-Deficit/Hyperactivity Disorder Combined Presentation, 314.01 in DSM-5 and F90.2 in ICD-10-CM.

28. Dr. Farmer's letter does not mention or discuss the diagnosis of ADHD, except for the unexplained conclusion that Ms. Ramsay does not have "pervasive ADHD symptoms that limited any major life activity compared to most people in the general population." Farmer letter at 2. I disagree. If Dr. Farmer's conclusion is based on her comments about ACT and MCAT scores, then these tests also are not diagnostic measures of ADHD.


29. Dr. Farmer's letter stated, "[Ms. Ramsay's] documentation with regard to learning disabilities and ADHD offers no objective evidence of impaired reading or pervasive ADHD

symptoms that limited any major life activity compared to most people in the general population.” Farmer letter, Exhibit E, at 2. Ample evidence was presented that Jessica exhibits most of the ADHD criteria and has done so for most of her life. The DSM-5 states that symptoms “. . . interfere with, or reduce the quality of, social, academic, or occupational functioning. . . .” Dr. Farmer’s statement also ignores the recognition by Ohio State University, the Western Michigan University Medical School and multiple professional opinions that her symptoms significantly interfere with her functioning and that she required many accommodations, including extended time for tests.

30. In addition, Ms. Ramsay’s accomplishments and scores on selective tests to which Dr. Farmer refers have been achieved through the mitigating effects of the compensatory test taking strategies she learned through test preparation courses and the mitigating effects of the ADHD medication she began in 2009. Substantial multiple and substantive objective evidence was offered, including my own report, that appears to have been rejected without credible explanation by Dr. Farmer. In my professional opinion, the information presented in my report and the clarifications presented in this Declaration present more than ample evidence for reasonable people to conclude that the accommodations Ms. Ramsay has requested are more than justified.

\* \* \* \*

I declare under penalty of perjury that the foregoing is true and correct.

  
Robert D. Smith, Ph.D.

Dated: 7-18-19

**Exhibits to Declaration of Robert D. Smith, Ph.D.**

- A Curriculum vitae of Robert D. Smith, Ph.D.
- B Robert D. Smith, Ph.D., Neuropsychological Evaluation Report dated 11/6/2018
- C Letter from Constance Farmer, Psy.D., dated 9/11/2018
- D A. Lewandowski, Neurocognitive Examination Report dated 12/7/2017
- E Letter from Constance Farmer, Psy.D., dated 2/14/2019

## **Exhibit A**

### **Curriculum vitae of Robert D. Smith, Ph.D.**

**ROBERT D. SMITH, PH.D.**

Office: 3505 Coolidge Rd. E.Lansing, MI 48823  
 Birthdate: January 11, 1950

Office: (517)349-5987 Home: (517)339-5067  
 Marital Status: Married

[www.neuro-psychologyservices.com](http://www.neuro-psychologyservices.com)

**EDUCATION**

Ph.D. Counseling Psychology (APA Approved)	Michigan State University	1984
M.A. Clinical Psychology	Central Michigan University	1974
B.S. Psychology	Central Michigan University	1972
Certificate of Specialization in Clinical Neuropsychology (2yr post-doctoral)	Fielding University	1999

**LICENSE**

Fully Licensed Psychologist, Board of Psychology, State of Michigan License # 6301003249

**PROFESSIONAL EXPERIENCE**

Michigan Dyslexia Institute 532 Shiawassee Street Lansing, MI 48933 3384 West 12 Mile, Berkley, MI 48072 Consultant -Conduct neuropsychological assessments of children and adults with central nervous system dysfunction: learning disorders, ADHD. 25 hours per week.	Psychologist	1994-Present
Independent Private Practice Neuropsychological Assessment of children and adults with traumatic brain damage, brain damage due to toxic and disease. Individual Psychotherapy with adolescents and adults. 25 hours per week	Psychologist	1992-Present
Okemos Counseling Center 4123 Okemos Rd. Okemos,MI 48864 Psychological Assessment and Psychotherapy with adults	Psychologist	1991-1992
Michigan Psychotherapy 335 N. Seymour Lansing, MI 48933 Psychological Assessment, Individual and Group Psychotherapy, Supervision of other staff psychologists and interns.	Psychologist	1988-1991
Psychological Counseling Center 1004 W.Michigan Ave. Jackson,MI 49202 Psychological Assessment, Psychotherapy with children and adults	Psychologist	1986-1988
Ingham County Community Mental Health 808-B Southland Lansing, MI 48910 Psychological Assessment, Individual and Group Psychotherapy, Consultation with social services, vocational rehabilitation services and physicians. Supervised doctoral psychology interns and taught weekly psychotherapy seminar for APA Approved Professional Psychology Internship.	Psychologist	1977-1988
Huron County Community Mental Health Bad Axe, Michigan 48413 Psychological Assessment, Individual and Group Psychotherapy, play therapy, crisis intervention, consultation with public schools and with the agency supported pre-school program and consultation with the partial hospitalization program.	Psychologist	1974 -1976
Central Michigan University Lectured undergraduate students in psychological testing, prepared presentations and graded papers	Graduate Assistant	1972 -1974

**COMMUNITY INVOLVEMENT**

Member, Mothers Against Drunk Driving-Ingham County Chapter	1992 -1994
Board of Directors , Mothers Against Drunk Driving-Ingham County Chapter	1990 -1992
Board of Directors, Lansing Concert Band	2005- 2007

**PROFESSIONAL AFFILIATION**

American Psychological Association, Division:Neuropsychology  
 National Academy of Neuropsychology

## **Exhibit B**

**Robert D. Smith, Ph.D., Neuropsychological  
Evaluation Report dated 11/6/2018**



A nonprofit organization serving children and adults with dyslexia

## **NEUROPSYCHOLOGICAL EVALUATION**

For Learning Problems

NAME: Jessica E. Ramsay  
AGE: 28 years, 0 months  
SEX: Female  
DATE OF BIRTH: 8/29/1990  
EXAMINATION DATE: 9/25/2018  
REPORT DATE: 11/6/2018  
EXAMINER: Robert D. Smith, PhD  
LICENSE: 6301003249

### **Sources of Information:**

Interview with Ms. Ramsay and her mother, Jerri Shold  
TEST OF MEMORY MALINGERING (TOMM)  
ADULT ADHD-Rating Scale-IV with Adult Prompts  
NELSON-DENNY READING TEST  
WECHSLER INDIVIDUAL ACHIEVEMENT TEST-THIRD EDITION (WIAT-III)  
WOODCOCK-JOHNSON IV TESTS OF ACHIEVEMENT (WJ-4) (Selected subtests)  
GRAY ORAL READING TESTS-FIFTH EDITION (GORT-5)  
SYMPTOM CHECKLIST-90-REVISED (SCL-90-R)  
INTEGRATED VISUAL & AUDITORY CONTINUOUS PERFORMANCE TEST (IVA+PLUS)

### **Records Reviewed**

The following records were made available at the time of this examination:

Alan Lewandowski, PhD, FACPN Neurocognitive Consultation (10/25/2017)  
Alan Lewandowski, PhD, FACPN Neurocognitive Examination (12/7/2017)  
Alan Lewandowski, PhD, FACPN Graphs and Raw Data for Neurocognitive Examination (12/7/2017)  
Bruce Ruekberg, MD, letter supporting accommodations application (6/4/2018)  
Genesis Family Health Center summary of medical history and status (5/17/2010)  
The Ohio State University ADD/ADHD Verification Form (8/13/2010)  
Decision letters of Essential Abilities Committee Request for Reasonable Accommodations (2014-2017)  
USMLE Certification of Prior Test Accommodations (6/1/2018)  
Alan Lewandowski, PhD, FACPN ADDENDUM response for additional information requested by USMLE and NBME (9/2/2016)

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State Headquarters &  
Abrams Teaching Laboratory  
532 E. Shiawassee Street  
Lansing, MI 48912-1214  
(517) 485-4000  
Fax (517) 485-4076

Northern Michigan Center  
681 E. Lake Street  
Harbor Springs, MI 49740-1219  
(231) 526-9282  
Fax (231) 526-8677

St. Clair Center  
1013 S. Seventh Street  
St. Clair, MI 48079-5043  
(810) 329-7800  
Fax (810) 329-2927

David Overton, MD, letter supporting request for accommodations (4/12/2018)  
Personal Statement regarding need for accommodations (6/6/2018)  
NBME letter from Catherine Farmer, PsyD, regarding offered accommodations (9/11/2018)  
MCAT Score Report for exams taken (11/4/2011)  
Charles Livingston, MA, WAIS-IV score report (9/12/2014), report (9/22/2014), Addendum (9/12/2014)  
ACT Score Report (3/2007 & 10/2007)  
USMLE Step 1 Score Report (7/017)  
Review of report cards for grades K, 2, 3, 4, 5, 6  
Review of high school transcript  
Review of undergraduate college transcript  
Review of letters from Dr. Mary Alice Tanguay, Therapeutic Optometrist (1/27/2000 & 12/1997)

### **Reason for Referral**

Ms. Ramsay is currently on academic leave from her fourth year of medical school because she failed her initial United States Medical Licensing Exam (USMLE) Step 1, which is a requirement for continuing and completing her medical degree. She has formally been granted accommodations, such as extended time for tests and testing in a private room, during her undergraduate years at Ohio State University and at the Western Michigan University Homer Stryker, MD School of Medicine. Ms. Ramsay applied for the same accommodations from the National Board of Medical Examiners (NBME), which administers the USMLE, but was denied accommodations. She attempted the USMLE Step 1 without accommodations, but failed. She is appealing the NBME denial and sought this evaluation as part of her appeal.

### **History and Interview Information**

Ms. Ramsay is currently living with her fiancé with whom she has lived for the past two years. She described her health as fair. She has several health conditions which are being appropriately medically managed. She had a deep vein thrombosis (DVT) the full length of her leg in 2016 and was later diagnosed with a clotting disorder. The DVT damaged the circulation in her legs, and sitting or standing for long periods causes painful swelling in her legs. Her vision is normal and was screened in August 2014. No hearing problems were reported and her hearing was evaluated in 2015. Ms. Ramsay was born in Texas. Her family moved to Michigan when she was 10 years of age. Her father is 57 years old, employed in sales, with a bachelor's degree. Her mother is 68 years old and is a retired art educator with a bachelor's degree in art education and a master's degree in education. She has two adopted brothers, ages 24 and 20. There is no history of substance abuse or severe psychological problems. Ms. Ramsay has had frequent headaches since she was very young, which her mother described as occurring during and after school as early as kindergarten. Beginning in third grade, she started having daily migraine headaches with blind spots, nausea, and hypersensitivity to light, sound and temperature, which was attributable to the mental strain from reading and writing for extended periods of time. Subsequent treatment over that next year reduced the frequency of migraines, but she has continued to experience migraine symptoms throughout her academic career.



Ms. Ramsay's mother had no problems or complications during pregnancy and Ms. Ramsay had no birth complications when born. There were no problems during her infancy/toddler period. Ms. Ramsay is ambidextrous, but was originally left handed. Her kindergarten teacher made her use her right hand, which was common practice at that time. When home she would use her left hand, but gradually switched to primarily using her right hand for writing tasks. She does many activities with her left hand and frequently switches back and forth.

For leisure activities Ms. Ramsay socializes with friends and family, plays sports and works out. She enjoys camping, hiking, art, hunting, archery, soccer, running, volleyball, watching football, dance, yoga, and weight training.

Ms. Ramsay reported that she tries very hard to succeed at schoolwork. She generally likes herself, though she indicated she is anxious and worried about her future because of having to suspend medical school. She has difficulty falling asleep, but sleeps six to eight hours a night. Her appetite is normal. She has several close friends she can confide in. She is often restless or fidgety and restless. She typically avoids anything that involves waiting. She often makes careless mistakes. Ms. Ramsay often has difficulty getting organized and finishing what she starts. She often has difficulty concentrating on one thing for very long. She is often easily distracted; she tends to forget what she is supposed to do and often loses her personal belongings.

Ms. Ramsay stated that she has marked difficulty sustaining attention, especially for extended periods, is very easily distracted by sounds, movement, and flashes of light, as well as her own thoughts and sensations. These distractions make it difficult to complete tasks that require sustained mental effort, such as thinking, maintaining conversation, remembering obligations and assignments, getting organized, staying on track, and completing tasks and projects. For example, she reported that when voting in an election she has difficulty reading and comprehending proposals she is trying to vote on. She often forgets where she put things such as her wallet, keys, assignments, phone, and legal documents. She also indicated that she is impulsive, has difficulty waiting, including for her turn in conversations. She unintentionally interrupts others, or blurts out her thoughts before fully thinking them through or appropriately filtering them for the situation. It is very difficult for her to focus on one idea at a time and she jumps quickly from one thought to another. She frequently forgets things she needs to do, forgets instruction, forgets what someone just said to her, and loses her train of thought when talking.

During exams and when reading, she will get lost in unrelated thoughts and loses track of what the questions are asking. She often unintentionally completes only part of the question in an exam. Consequently, she tries to compensate by reading and rereading the question aloud and double checking her answer selections. She also is very restless when sitting is required and constantly needs to be moving around or doing something. When expected or required to sit for prolonged periods, she becomes very restless and fidgety, doodles on papers, picks at her hair or clothes, and messes with objects within reach, which can be disruptive to others around her and has caused others at school to complain. Not being able to sit still for extended periods interferes with her ability to study, work on assignments, maintain professional behavior at work, and watch television to relax at home. Consequently, she typically needs to take frequent breaks from these activities to walk around and do something else to help manage her restlessness. Having to perform tasks that require

sustained mental effort often results in migraine headaches and associated blind spots, which affect her ability to see and read. The headache itself, along with the associated nausea and hypersensitivity to light, sound, and temperature, exacerbates her difficulty sustaining attention and ability to read, think, process, and answer questions.

### *School History*

Ms. Ramsay (Jessica) has a history of academic struggle that began from her first days in school and has consistently required accommodations such as extended time on tests and assignments, altered grading schemes, frequent breaks, and a private space for testing and completing classwork in order to compensate for distractibility, impaired attention and concentration, impaired reading comprehension, impaired reading speed, and hyperactivity.

Jessica's mother, Jerri Shold, recalled having difficulty learning to read when she was in kindergarten (in 1955) and early elementary school and was concerned that Jessica may have similar difficulties. The parenting books Ms. Shold read all recommended beginning sight words early, so Ms. Shold started working with Jessica during her preschool years up until it was time to start kindergarten. When Ms. Shold applied the sight word programs at home, Jessica could correctly identify letters if her mother pointed at specific letters within a sight word. She could repeat the word correctly when first read aloud by her mother, and could use the word correctly in a sentence. However, when later presented with the same sight words, Jessica could not recognize the sight words she had been previously exposed to no matter how many times her mother went through the words with her. Ms. Shold tried all the different methods suggested by these sight word programs, but the words didn't mean anything to Jessica. When Jessica was about four years old, the preschool she was enrolled in (Prince of Peace) did some developmental and IQ testing to assess whether she was ready to start kindergarten. The evaluation showed that she was intelligent and was mentally ready to start kindergarten, but noted that when shown simple images she had trouble copying them correctly. It was concluded that Jessica's fine motor skills were not at the level of a five year old. Ms. Shold and her preschool teachers thought her fine motor skills were advanced for her age. Based on the testing, Jessica was put into kindergarten for half the day, and then went back to preschool for the remainder of the day, five days a week. Her teachers reported that Jessica still was not really grasping the sight words at that point, though she was doing fine in everything else.

Ms. Shold recalled that when she had her own difficulty learning to read she was sent home with packets to help her work on phonics and reading. Ms. Shold believed that this extra help with phonics made a big difference for her, so she wanted Jessica to have the foundation of phonics so that she would be able to break words down and sound them out if she didn't recognize them. None of the public schools in her area used a phonetic reading program to teach reading. Consequently, Jessica's mother identified a private school that used a phonics-based reading program (Sunset Oaks Academy) and transferred Jessica there, where she was enrolled in fulltime Kindergarten. Ms. Shold believed the phonetic reading program was important for Jessica to progress and also thought the smaller class sizes would allow Jessica to receive more one-on-one reading, spelling and writing instruction than Jessica would receive in the public school system.

Jessica attended the Sunset Oaks Academy and received extensive individual instruction in reading, spelling and writing through the phonics-based program from Kindergarten through the second grade. Jessica received informal accommodations of a separate quiet space and extra time to complete tests and assignments. In third grade she transferred to the Carrollton-Farmers Branch Public School System when the family moved. Jessica attended the Carrollton-Farmers Branch Public Schools through the fifth grade. Jessica still struggled with reading, writing, and spelling when compared to her peers and her mother informed her teachers about her history and what prior teachers had done to help Jessica.

Jessica and her mother, Jerri Shold, also reported that beginning in her earliest school years and continuing through elementary school and beyond, Jessica had severe problems in the following areas: making many mistakes in her schoolwork, sustaining attention during tasks or activities, finishing schoolwork and tasks at home, organizing tasks, disliking or procrastinating on tasks that required sustained mental effort, losing things needed for task completion, being easily distractible, being forgetful in daily activities, fidgeting, not staying seated when expected, and not waiting or taking turns. Throughout elementary school, Jessica's teachers verbally commented to Ms. Shold that Jessica was very bright, but a slow reader who often forgot to turn in completed assignments.

It has always taken Jessica significantly more time and effort to study and complete assignments than other students. For example, she recalled that friends would become frustrated with her when she would not join them for recreational activities because she would typically be working on homework until bedtime (often past midnight), while her friends completed their homework in the early evening and were free for leisure activities. Ms. Shold confirmed that this was typical of Jessica's evenings from early elementary school through graduation from high school. Her first, second, third and fourth grade teachers noticed that Jessica had difficulty with reading, spelling and writing, and each teacher provided extra individual but informal remedial reading, spelling, and writing instruction during those grades.

Jessica's second grade teacher was concerned enough to recommend that her vision be tested. Jessica was referred to Dr. Mary Alice A. Tanguay, a therapeutic optometrist, who performed visual-perceptual skills testing and found significant deficits in Jessica's visual spatial relationships, visual discrimination, and visual memory. Jessica subsequently received visual perceptual skills training from Dr. Tanguay, though Jessica's school functioning did not improve. Ms. Shold, who has a master's degree in education, also worked nightly to remediate Jessica's reading, writing and spelling problems throughout elementary school. She regularly reviewed Jessica's work in middle and high school, as well as her essays throughout college and for medical school applications. Jessica's parents did not pursue an evaluation for her learning problems because her hard work in the evenings and the informal accommodations she received masked the degree of academic struggle she experienced.

Jessica managed to get good grades during her elementary, middle and high school years with the aid of these accommodations, which were provided on an informal basis. While Jessica's elementary, middle school and high school records do not reflect the struggle she reported, the early onset and chronic struggle that necessitated the accommodations, her teachers' verbal descriptions of Jessica's difficulty, and her mother's remedial efforts were corroborated by her mother.

Jessica graduated from high school in 2008 with a 3.75 grade point average. Because she did not have any type of formal diagnosis or accommodations, she did not know about the possibility of accommodations such as extended time and did not apply for or receive any type of accommodations when she took the ACT entrance exam for college.

During her freshman undergraduate year at Ohio State University, her compensatory strategies were overwhelmed by academic demands and her personal life. She experienced pronounced difficulty maintaining attention during tasks and activities, repeatedly misplaced things, lost track of completed assignments, made seemingly careless mistakes in her work, often misunderstood test questions and assignment directions and could not organize her tasks and activities. She spent increasingly more time on her schoolwork trying to compensate for these difficulties and neglected other important tasks, such as paying bills, cooking, cleaning, or engaging in leisure, recreational, social activities and sleep.

Jessica subsequently consulted her primary care physician, Dr. Allen Smiy, who diagnosed her with ADHD on March 24, 2009, and began pharmacological treatment. Jessica applied to the college's Office of Disability Services (ODS) and Dr. Smiy completed the Ohio State University ADD/ADHD Verification Form on August 13, 2010, which identified a DSM-IV diagnosis of ADHD, Inattentive Type and stated that Jessica often exhibited the DSM-IV inattention symptoms of having difficulty sustaining attention in tasks or other activities, having difficulty organizing tasks and activities, avoiding or disliking tasks that required sustained mental effort, being easily distracted by extraneous stimuli and being forgetful in daily activities. Jessica was approved by Ohio State University (OSU) to formally receive the accommodations of priority class scheduling, access to an assigned Office of Disabilities Services advisor, 50% additional testing time, a distraction reduced testing space, ear plugs for all quizzes or tests, supportive materials such as scrap paper for notetaking, colored pencils and highlighters to reword and draw diagrams on test questions for better understanding.

Jessica graduated from Ohio State University in 2012 with a 3.56 grade point average. With these formal accommodations, Jessica was better able to compensate for her inattention, distractibility, hyperactivity, and difficulties in reading and writing. However, there were still many tests that required a large amount of reading and/or writing that Jessica was unable to complete because there was still not adequate time for her to read all of the questions and/or write sufficient responses, though she understood the material being tested. In these instances, Jessica reached out to her professors about this continued struggle, and often her professors provided additional informal accommodations such as altered grading schemes or more time to complete unattempted portions, to allow Jessica to achieve a grade that better represented her competency.

Jessica did not find out that applying for accommodations for the MCAT was even a possibility until, near the end of her MCAT prep course through Princeton Review, one of the course instructors mentioned it while discussing Jessica's difficulty with reading. Jessica was advised not to apply or take the MCAT with accommodations unless she was unable to achieve an acceptable score after multiple attempts because her score report would show that she had received accommodations and that would hurt her chances of getting offered interviews. Jessica then made an appointment with her advisor at the OSU Office of Disability Services (ODS) to verify the possibility of receiving accommodations and the affect it would have on her application. Jessica's ODS advisor cautioned against taking the MCAT with accommodations for the same reason and also

explained that, while Jessica had adequate documentation from her initial diagnosis by Dr. Smiy to qualify for accommodations through OSU, the AAMC would likely require a full neuropsychology evaluation which would be expensive and was unlikely to be completed in time to apply for accommodations before her scheduled MCAT exam.

Because Jessica receive advice against receiving appropriate accommodation from multiple informed sources, she decided to try the MCAT without accommodations. When she took the exam, she relied on strategies suggested by her Princeton Review instructors in addition to her own established methods to compensate for her ADHD and difficulties with reading and writing. Like she had done for prior standardized tests, her Princeton Review instructors suggested that Jessica not read the passages until she had first answered all the questions she could without reading the passage. Only then with any remaining time, she could go back and try to answer the passage-dependent questions starting with the shortest passages. Finally, with the last minute, it was recommended that she randomly fill in answers to any questions she wasn't able to get to. Using this strategy, Jessica was able to obtain a good score in the 79<sup>th</sup> percentile (30M) of students who take the exam. This, however, was not the exceptional MCAT scores that would have been expected with her intelligence and understanding of the material. Jessica's performance on the MCAT component sections reflected her relative weakness specific to reading tasks with a Verbal Reasoning score at the 67<sup>th</sup> percentile, a Physical Sciences score at the 79<sup>th</sup> percentile and a Biological Sciences score at the 88<sup>th</sup> percentile.

Jessica applied to fourteen medical schools the first year after taking the MCAT and was only offered one interview, but was not accepted. The next year she again applied to twenty-five schools and received only two interviews. She was placed on a wait list for two schools, one of which, Western Michigan University, ultimately accepted her. Jessica believes that because she took the MCAT under standard time and with no accommodations for her ADHD, her modest MCAT score did not reflect how much she knew in the three component areas of Physical Sciences, Biological Sciences and Verbal Reasoning. If Jessica had been able to take the MCAT with appropriate accommodations, she likely would have achieved a much higher score that more accurately represented her intelligence, understanding of the material, and ability to apply the information.

Once accepted, Jessica requested accommodations from Western Michigan University Homer Stryker MD School of Medicine because of her ADHD and symptoms of dyslexia when she first began taking classes. She was referred to Charles Livingston, MA, for an evaluation to support her application for accommodations. Western Michigan University Homer Stryker MD School of Medicine approved her application and she was formally granted the accommodations of double exam time and a separate room to minimize distractions for all standardized NBME CBSE, Shelf exams and other exams written and administered by the school. Jessica applied for the same accommodations for the USMLE Step 1 exam, administered by the National Board of Medical Examiners (NBME) in 2016, but was denied accommodations. She attempted the USMLE without any accommodations and failed. Jessica is currently on academic leave from medical school because she failed her initial United States Medical Licensing Exam (USMLE) Step 1 exam, which is required to continue her fourth year rotations and complete her medical degree.

**MENTAL STATUS & OBSERVATIONS:** Jessica was neat in appearance and her demeanor was friendly and cooperative throughout the evaluation. She made good eye contact and her speech was at a normal rate, expressed in a normal manner and readily understood. Jessica did not have difficulty understanding directions and in the infrequent instances in which she appeared uncertain, she requested directions to be repeated or clarified. She persisted answering questions and completing tasks for an appropriate amount of time. Her answers to this examiner's questions were clear with appropriate, unguarded elaboration. Her mood and attitude were normal and her affect was appropriate. Her thought process and content were normal. Jessica was oriented to person, place, time and date. Jessica made a consistently high level of exertion on all tasks and the test results and self-report are an accurate measure of her functioning. Jessica did not take any of her ADHD medication on the day of the testing so that the results would more accurately reflect her functioning without the mitigating effects of the medications.

## **ASSESSMENT RESULTS**

### **Symptom Validity**

#### *Test of Memory Malingering (TOMM)*

The TOMM was administered midway through the exam. Jessica was told that the TOMM measured important memory skills needed for efficient reading. Jessica's performance on the TOMM resulted in 50 of 50 items correct on Trial 2 and after a delay of 15 minutes she correctly answered 50 of the 50 items on the Retention Trial. This pattern of TOMM scores does not reflect suboptimal effort. Her overall pattern of test scores and behavioral performance reflected strong effort on all tests administered to her.

### **Intellectual Functioning**

The following interpretation is based on the Wechsler Adult Intelligence Scale–Fourth Edition (WAIS-IV) scores obtained by Alan Lewandowski, PhD, as part of a neuropsychological evaluation conducted on November 9, 2017. The Wechsler Adult Intelligence Scale–Fourth Edition (WAIS-IV) provides a general overview of Jessica's overall thinking and reasoning skills, encompassing four broad domains: Verbal, Perceptual, Working Memory, and Processing Speed. The Verbal Comprehension Index (VCI) provides a measure of how well she did on tasks that required her to listen to questions and give oral responses to them. The Perceptual Reasoning Index (PRI) indicates how well she did on tasks that required her to examine and think about designs, pictures, and puzzles, and to solve problems without using words. Her ability to attend to information, to hold and process it in memory, and to give a response is measured by the Working Memory Index (WMI). The last index, Processing Speed Index (PSI), provides information regarding her ability to process simple visual information quickly and efficiently. When the Index scores are markedly different from each other, the Full-Scale IQ score is not the best summary of an individual's performance. Alternate scores or the separate index scores should be used.

The scores show how well Jessica performed compared to a group of individuals of the same age from across the United States. An individual may have WAIS-IV scores that fall within a wide range from Extremely Low to



Very Superior. Most individuals, however, perform within the Average range. A percentile rank is also reported. This shows where the individual's scores rank relative to the national comparison group. For example, if Jessica's percentile rank (PR) was 45, it would mean that she scored higher than approximately 45 out of 100 individuals her age.

#### *General Intellectual Ability*

The Full-Scale IQ (FSIQ) composite score is derived from ten subtest scores and is usually considered the most representative estimate of global intellectual functioning. Jessica's FSIQ score is within the high average range and exceeds those of approximately 87% of individuals her age (FSIQ=117; 95% confidence interval=113-121). She performed slightly better on nonverbal than on verbal reasoning tasks, but there is no meaningful difference between Jessica's ability to reason with and without the use of words. However, her Processing Speed Index score of 79 is significantly and uncommonly below the Verbal Comprehension Index and the Perceptual Reasoning Index scores. Consequently, her FSIQ score does not accurately reflect her optimum intellectual ability. Jessica's optimum intellectual capacity is most accurately reflected in the General Ability Index (GAI), which is calculated from the VCI and PRI subtests and does not include the attention-related Working Memory Index and Processing Speed Index subtest scores. Jessica's GAI score is significantly higher than her FSIQ score by a very uncommon margin estimated to occur in only 0.4% of the general population. Her GAI score of 132 is in the very superior range and is higher than 98% of other adults her age.

#### *Verbal Comprehension*

Jessica's verbal reasoning abilities as measured by the Verbal Comprehension Index (VCI) are in the superior range and above those of approximately 95% of her peers (VCI=125; 95% confidence interval=118-130). The VCI is designed to measure verbal reasoning and concept formation. Jessica's performance on the verbal subtests contributing to the VCI presents a diverse set of verbal abilities; she performed much better on some verbal tasks than others. The degree of variability is unusual and may be noticeable to those who know her well. Examination of Jessica's performance on individual subtests provides additional information regarding her specific verbal abilities.

Jessica achieved her best performance among the verbal reasoning tasks on the Information subtest. Her strong performance on the Information subtest was much better than that of most of her peers. The Information subtest required Jessica to respond orally to questions about common events, objects, places, and people. The subtest is primarily a measure of her fund of general knowledge. Performance on this subtest also may be influenced by cultural experience and quality of education as well as her ability to retrieve information from long-term memory (Information scaled score=16).

#### *Perceptual Reasoning*

Jessica's nonverbal reasoning abilities as measured by the Perceptual Reasoning Index (PRI) are in the very superior range and above those of approximately 98% of her peers (PRI=131; 95% confidence interval=123-136). The PRI is designed to measure fluid reasoning in the perceptual domain with tasks that assess nonverbal concept formation, visual perception and organization, visual-motor coordination, learning, and the ability to separate figure and ground in visual stimuli. Jessica performed comparably on the perceptual reasoning

subtests contributing to the PRI, suggesting that her visual-spatial reasoning and perceptual-organizational skills are similarly developed.

### *Working Memory*

Jessica's ability to sustain attention, concentrate, and exert mental control is in the high average range. She performed better than approximately 77% of her peers in this area (Working Memory Index [WMI]=111; 95% confidence interval=104-117). Jessica's abilities to sustain attention, concentrate, and exert mental control are a weakness relative to her nonverbal reasoning abilities. At her level of ability, a relative weakness in mental control likely makes the processing of complex information more time consuming for Jessica, draining her mental energies more quickly as compared to others.

### *Processing Speed*

Processing speed is an indication of the rapidity with which Jessica can mentally process simple or routine information without making errors. Jessica's ability in processing simple or routine visual material without making errors is in the borderline range when compared to her peers. She performed better than approximately 8% of her peers on the processing speed tasks (Processing Speed Index [PSI]=79; 95% confidence interval=73-89). Processing visual material quickly is an ability that Jessica performs poorly when compared to her verbal and nonverbal reasoning ability.

### Composite Score Summary

Scale	Sum of Scaled Scores	Composite Score	Percentile Rank	95% Confidence Interval	Qualitative Description
Verbal Comprehension	43	VCI 125	95	118-130	Superior
Perceptual Reasoning	46	PRI 131	98	123-136	Very Superior
Working Memory	24	WMI 111	77	104-117	High Average
Processing Speed	12	PSI 79	8	73-89	Borderline
Full Scale	125	FSIQ 117	87	113-121	High Average
General Ability	89	GAI 132	98	126-136	Very Superior

### Index Level Discrepancy Comparisons

Comparison	Score 1	Score 2	Difference	Critical Value .05	Significant Difference Y / N	Base Rate Ability Level
VCI - PRI	125	131	-6	8.32	N	34.3
VCI - WMI	125	111	14	8.81	Y	18.4
VCI - PSI	125	79	46	10.99	Y	2.7
PRI - WMI	131	111	20	8.81	Y	9
PRI - PSI	131	79	52	10.99	Y	1.3
WMI - PSI	111	79	32	11.38	Y	3.7
FSIQ - GAI	117	132	-15	3.51	Y	0.4

Base rate by ability level.



Statistical significance (critical value) at the .05 level.

#### Verbal Comprehension Subtests Summary

Subtest	Scaled Score	Percentile Rank
Similarities	13	84
Vocabulary	14	91
Information	16	98
(Comprehension)	15	95

#### Perceptual Reasoning Subtests Summary

Subtest	Scaled Score	Percentile Rank
Block Design	15	95
Matrix Reasoning	16	98
Visual Puzzles	15	95
(Figure Weights)	15	95
(Picture Completion)	14	91

#### Working Memory Subtests Summary

Subtest	Scaled Score	Percentile Rank
Digit Span	12	75
Arithmetic	12	75

#### Processing Speed Subtests Summary

Subtest	Scaled Score	Percentile Rank
Symbol Search	7	16
Coding	5	5
(Cancellation)	9	37

### Sustained Attention

The IVA+Plus CPT (Integrated Visual & Auditory Continuous Performance Test) is a test of attention that measures responses to 500 intermixed auditory and visual stimuli spaced 1.5 seconds apart. The task is to click the mouse when the stimulus is an auditory or visual "1" and to refrain from clicking when the stimulus is an auditory or visual "2." A correct response is defined as exactly one click to a target stimulus. The individual taking the test must be able to discriminate between 1s and 2s, switch between sensory modalities, and maintain attention for about thirteen minutes. The targets ("1") occur frequently during some sections of the test and rarely during other sections, thus testing attention under both high and low demand conditions. The high demand condition is defined as a "block" of 50 trials when the 1s are frequent. The first two target presentations are excluded from the measurement of performance under high demand conditions and are categorized as being part of the previous low demand conditions block. The reason that these first two

targets are categorized in this way is that they are still pulling for errors of inattention as the test-taker has not yet made the transition to the mode of rapid clicking that is characteristic of the high demand block.

The quotient scores for all of the IVA+Plus scales are reported as standard scores. Standard scores have a mean of 100 and a standard deviation of 15. The Wechsler Intelligence tests, which are commonly used in schools to assess Full Scale, Verbal and Performance IQ, also use standard scores (i.e., Mean=100, SD=15).

In addition to reporting standard scores for the IVA+Plus scales, the narrative report below also provides percentile rank. A person with a standard score of 100 has a percentile rank of 50, meaning that about half the people taking the test scored higher on that scale, and about half scored lower. In this narrative report, percentile rank is given in the format "(PR=50)" immediately following each standard score that is reported. For example, "John's Auditory Vigilance Score of 80 (PR=9) fell in the mildly impaired range."

Jessica was administered the IVA+Plus twice, approximately one hour apart, as a check on the consistency of her responses.

#### 1<sup>st</sup> Administration

##### *VALIDITY OF TEST RESULTS*

Jessica demonstrated sufficient understanding of the task for the test results to be considered valid in both the auditory and visual modalities for the Global, Primary and Attribute scales. The validity of the IVA+Plus CPT is assessed by determining whether an individual's responses are characteristic of random responding. The test is considered valid only when the individual's decision to click to targets and inhibit clicking to non-targets is based on self-directed responses in accordance with the test rules. Statistically, the test results for a specific sensory modality are considered invalid when the probability of the individual's response pattern being self-directed in accordance with the test rules is less than 1 in 1000.

##### *IVA+Plus DIAGNOSTIC INTERPRETIVE GUIDELINES*

A working diagnosis of Attention-Deficit/Hyperactivity Disorder, combined presentation was supported by the IVA+Plus test data. Jessica's global Response Control quotient scale score indicated an extreme impairment. In addition, her global Attention quotient scale score fell in the extremely impaired range. These impairments on the IVA+Plus test indicate that her pattern of responding is likely to impair her functioning and performance in the home or work environment.

##### *SUMMARY OF TEST RESULTS FOR THE IVA+Plus GLOBAL SCALES*

The Full-Scale Response Control Quotient is a global measure of the overall ability for Jessica to regulate her responses and respond appropriately. Factors that load on this scale include the ability to inhibit responses to non-targets, the consistency of recognition reaction times and the person's ability to maintain her mental processing speed during the IVA+Plus test. Jessica's overall global quotient scale score for the Full-Scale Response Control scale was 44 (PR=1). This score fell in the extremely impaired range. Her Auditory Response Control quotient scale score was 38 (PR=1). This global scale score fell in the extremely impaired range.

Jessica's Visual Response Control quotient scale score was 65 (PR=1). This global scale score fell in the severely impaired range.

The Full-Scale Attention Quotient provides a measure of an individual's overall ability to make accurate responses, stay focused and sustain her attention. This global scale's factors include the ability to be attentive and accurately respond under low demand conditions, remain focused and stay reliably "on task," and, at the same time, respond quickly when appropriate. Jessica's overall quotient score on the Full-Scale Attention scale was 50 (PR=1). This global scale score fell in the extremely impaired range. Her Auditory Attention quotient scale score was 65 (PR=1) and this global scale score fell in the severely impaired range. Jessica's Visual Attention quotient scale score was 44 (PR=1). This global scale score was classified as falling in the extremely impaired range.

The Combined Sustained Attention quotient scale score provides a global measure of a person's ability to accurately and quickly respond in a reliable manner to stimuli under low demand conditions. In addition, it includes the ability to sustain attention and be flexible when things change under high demand conditions. Jessica's global quotient score on the Combined Sustained Attention scale was 58 (PR=1). This score fell in the extremely impaired range. Her global Auditory Sustained Attention quotient scale score was 65 (PR=1) and it fell in the severely impaired range. Jessica's global Visual Sustained Attention quotient scale score was 59 (PR=1). This score was found to fall in the extremely impaired range.

## 2<sup>nd</sup> Administration

### *VALIDITY OF TEST RESULTS*

Jessica demonstrated sufficient understanding of the task for the test results to be considered valid in both the auditory and visual modalities for the Global, Primary and Attribute scales.

### *IVA+Plus DIAGNOSTIC INTERPRETIVE GUIDELINES*

A working diagnosis of Attention-Deficit/Hyperactivity Disorder, combined presentation was supported by the IVA+Plus test data. Jessica's global Response Control quotient scale score indicated an extreme impairment. In addition, her global Attention quotient scale score fell in the extremely impaired range. These impairments on the IVA+Plus test indicate that her pattern of responding is likely to impair her functioning and performance in the home or work environment.

### *SUMMARY OF TEST RESULTS FOR THE IVA+Plus GLOBAL SCALES*

The Full-Scale Response Control Quotient is a global measure of the overall ability for this individual to regulate her responses and respond appropriately. Factors that load on this scale include the ability to inhibit responses to non-targets, the consistency of recognition reaction times and the person's ability to maintain her mental processing speed during the IVA+Plus test. Jessica's overall global quotient scale score for the Full-Scale Response Control scale was 37 (PR=1). This score fell in the extremely impaired range. Her Auditory Response Control quotient scale score was 48 (PR=1). This global scale score fell in the extremely impaired range. Jessica's Visual Response Control quotient scale score was 44 (PR=1). This global scale score fell in the severely impaired range.

The Full-Scale Attention Quotient provides a measure of an individual's overall ability to make accurate responses, stay focused and sustain attention. This global scale's factors include the ability to be attentive and accurately respond under low demand conditions, remain focused and stay reliably "on task," and, at the same time, respond quickly when appropriate. Jessica's overall quotient score on the Full-Scale Attention scale was 58 (PR=1). This global scale score fell in the extremely impaired range. Her Auditory Attention quotient scale score was 72 (PR=3) and this global scale score fell in the severely impaired range. Jessica's Visual Attention quotient scale score was 50 (PR=1). This global scale score was classified as falling in the extremely impaired range.

The Combined Sustained Attention quotient scale score provides a global measure of a person's ability to accurately and quickly respond in a reliable manner to stimuli under low demand conditions. In addition, it includes the ability to sustain attention and be flexible when things change under high demand conditions. Jessica's global quotient score on the Combined Sustained Attention scale was 58 (PR=1). This score fell in the extremely impaired range. Her global Auditory Sustained Attention quotient scale score was 73 (PR=4) and it fell in the severely impaired range. Jessica's global Visual Sustained Attention quotient scale score was 51 (PR=1). This score was found to fall in the extremely impaired range.

### **Behavioral-Psychological Functioning**

During the diagnostic interview, Jessica indicated that she has exhibited nine of the nine criteria associated with attention-deficit hyperactivity disorder, predominantly inattentive presentation, and eight of the nine criteria of ADHD, predominantly hyperactive-impulsive presentation. Jessica endorsed the following symptoms:

- Fails to pay close attention to details or makes careless mistakes
- Has difficulty sustaining attention
- Often does not listen when spoken to directly
- Has trouble following through on instructions and often fails to finish school work, chores or work duties
- Has difficulty organizing tasks and activities
- Avoids tasks that require sustained mental effort
- Loses things needed to finish tasks
- Is easily distracted
- Is forgetful in daily activities
- Often fidgets or squirms in seat
- Has difficulty remaining seated when expected
- Feels very restless most of the time
- Talks excessively
- Has difficulty waiting for her turn
- Interrupts and intrudes on others

Jessica's mother endorsed eight of the inattentive symptoms and six of the hyperactive/impulsive symptoms, which corroborated many of the difficulties Jessica described. The ratings provided by Jessica's fiancé also

confirms that these symptoms are frequently in evidence. Her fiancé endorsed seven of the inattentive symptoms and five of the hyperactive-impulsive symptoms.

*Symptom Checklist-90-Revised (SCL-90-R)*

Overall, Jessica's SCL-90-R symptom profile is not of a nature or magnitude to be considered in the clinical range. General symptomatic distress levels are average to low-average for her, suggesting good psychological integration, and little global psychological distress. Jessica's report reflects little evidence of psychological distress associated with somatic symptoms, or psychosomatic problems. Levels of obsessive-compulsive symptoms are clearly in the clinical range. However, the symptoms she rated as involving significant distress are all behaviors she described as either difficulty concentrating or behaviors used to compensate for her ADHD symptoms. The other behaviors from this scale that directly related to obsessive-compulsive symptoms were rated as involving no distress. Depressive symptoms are somewhat above average in this individual's record, but do not appear clinically noteworthy. There are several isolated signs or symptoms of anxiety in the respondent's test protocol. However, they do not appear to represent clinically significant experiences. There is little or no evidence of paranoid thinking in this respondent's record.

	SOM	O-C	I-S	DEP	ANX	HOS	PHOB	PAR	PSY	GSI	PSDI	PST
Nonpatient T Score:	41	66	50	56	52	40	44	41	44	55	66	49
Raw Score:	0.08	1.50	0.22	0.54	0.30	0.00	0.00	0.00	0.00	0.38	2.13	16
Outpatient T Score:	34	51	35	36	36	32	38	33	30	35	48	32
Inpatient T Score:	35	51	37	37	38	36	37	33	31	37	48	34

*Primary Symptom Dimensions*

*SOM Somatization*

*O-C Obsessive-Compulsive*

*I-S Interpersonal Sensitivity*

*DEP Depression*

*ANX Anxiety*

*HOS Hostility*

*PHOB Phobic Anxiety*

*PAR Paranoid Ideation*

*PSY Psychoticism*

*General Indices*

*GSI Global Severity Index*

*PSDI Positive Symptom Distress Index*

*PST Positive Symptom Total*

## Academic Skills

The Wechsler Individual Achievement Test--Third Edition (WIAT-III) is an individually administered instrument designed to measure academic achievement skills in individuals from age 4 through 50. Descriptive statements are provided, ranging from Far Below Average to Far Above Average, based on the standard score. The scores and statements below are primarily based on age-based norms. A percentile rank is also reported in the table of scores, which shows where the clients score rank compared to a group of clients of the same age from across the United States. For example, if the percentile rank was 45, it would mean that the individual scored higher than approximately 45% of individuals her age.

The Total Reading Composite (TRC) is an overall measure of basic reading, fluency and reading comprehension. It is derived from the Word Reading, Pseudoword Decoding, Reading Comprehension and Oral Reading Fluency subtests. Jessica's Total Reading Composite score of 85 is at the bottom of the low average range and is higher than 16% of individuals her age.

The Basic Reading Composite (BRC) is a measure of applying phonemic knowledge and single word decoding. It is derived from the Word Reading and Pseudoword Decoding subtests. Jessica's Basic Reading Composite score of 96 is average and is higher than 39% of other individuals her age. The *Word Reading* subtest measures speed and accuracy of single word reading. The individual is asked to read aloud from a list of words which yields a score for accuracy and a score for speed. Jessica's Word Reading score of 100 is average and is higher than 50% of other individuals her age. The *Pseudoword Decoding* subtest measures speed and accuracy in applying phonemic knowledge to decode pseudowords. Jessica's Pseudoword Decoding score of 95 is average, which is the percentile rank of 37. The supplemental scores for speed of performing subtests were also calculated. The Word Reading Speed score is the same as or higher than the scores obtained by only 2% of individuals in the normative sample. Ninety-eight percent of students in the normative sample scored higher than Jessica in the Word Reading Speed score. The Pseudoword Decoding Speed score is the same as or higher than the scores obtained by only 5% of students in the normative sample; 95% of individuals in the normative sample scored higher than her Pseudoword Decoding Speed score.

Jessica's Reading Comprehension and Fluency Composite score of 74 is in the well below average range and is higher than only 4% of other individuals her age. The *Reading Comprehension* subtest is untimed and measures literal and influential reading comprehension skills using paragraph passages in which she was verbally asked open-ended questions by the examiner and was allowed to verbally give her answers. The examiner was allowed and asked for elaboration or clarification of her answers as needed. Jessica's Reading Comprehension score of 94 is in the average and is higher than 34% of other individuals her age. The *Oral Reading Fluency* subtest measures oral reading fluency of narrative passages and yields separate scores for overall oral reading accuracy and component scores for oral reading rate and oral reading fluency. Her overall Oral Reading Fluency score of 67 is far below average and is higher than 1% of other individuals her age. Her Oral Reading Rate score of 65 is far below average and is higher than 1% of other individuals her age. Her Oral Reading Accuracy score of 102 is average and is higher than 55% of other individuals her age.

The Written Expression Composite (WEC) is a measure of overall writing skills. It is derived from the Spelling, Sentence Composition, and Essay Composition subtests. The Spelling subtest measures written spelling of single words from dictation. The Sentence Composition subtest includes sentence combining and sentence building components, which measure sentence formulation skills including grammar, syntax, semantics and mechanics. Jessica's Written Expression Composite score of 100 is average and is higher than 50% of other individuals her age. Her Spelling score of 108 is average and is higher than 70% of other individuals her age. Jessica's Sentence Composition score of 104 is average and is higher than 61% of other individuals her age.

The Essay Composition subtest measures spontaneous written expression, which involves productivity, theme development, text organization, grammar and mechanics. The individual listens to instructions about general content the essay is to contain and then must plan, write and finalize an essay within a ten-minute time limit. The Essay Composition required Jessica to write an essay about her favorite game and include at least three reasons for liking it. The Essay Composition score is significantly influenced by the number of words produced, regardless of spelling, though theme development and organization contribute to the score. A separate supplemental component, Theme Development and Text Organization, reflects theme development and organization. Another supplemental subtest, Grammar and Mechanics, reflects grammar, punctuation, spelling and capitalization. Jessica's Essay Composition score of 91 is average and is higher than 27% of other individuals her age. Her Word Count score of 92 is average and higher than 30% of other individuals her age. Jessica's Theme & Text Organization score of 94 is average and is higher than 34% of other individuals her age. Her Grammar & Mechanics score of 91 is average and higher than 27% of other individuals her age.

The Mathematics Composite (MC) is an overall measure of ability to calculate a variety of different math procedures and apply math procedures in tasks that require math reasoning. It is derived from the Numerical Operations and the Math Problem Solving subtests. The Numerical Operations subtest measures math skills under untimed conditions. The Math Problem Solving subtest measures mathematics reasoning in solving math problems that are read to the individual. Jessica's Mathematics Composite score of 133 is far above average and higher than 99% of other individuals her age. Jessica's Numerical Operations score of 125 is well above average and is higher than 95% of other individuals her age. Her Math Problem Solving score of 136 is far above average and is higher than 99% of other individuals her age.

**WIAT-III****Age Based Scores: age at testing 28 years, 0 months****Composite Score Summary**

<b>Composite</b>	<b>Standard Score</b>	<b>90% Confidence Interval</b>	<b>Percentile Rank</b>	<b>Qualitative Description</b>
Total Reading	85	81-89	16	Low Average
Basic Reading	96	92-100	39	Average
Reading Comprehension and Fluency	74	67-81	4	Well Below Average
Written Expression	100	94-106	50	Average
Mathematics	133	129-137	99	Far Above Average

**Subtest Score Summary**

<b>Composite</b>	<b>Standard Score</b>	<b>90% Confidence Interval</b>	<b>Percentile Rank</b>	<b>Qualitative Description</b>
Reading Comprehension	94	84-104	34	Average
Math Problem Solving	136	130-142	99	Far Above Average
Sentence Composition	104	96-112	61	Average
Word Reading	100	94-106	50	Average
Essay Composition	91	82-100	27	Average
Pseudoword Decoding	95	89-101	37	Average
Numerical Operations	125	120-130	95	Well Above Average
Oral Reading Fluency	67	61-73	1	Far Below Average
Spelling	108	103-113	70	Average

**Cumulative Percentages**

<b>Word Reading Speed</b>	The score is the same as or higher than the scores obtained by 2% of students in the normative sample; 98% of students in the normative sample scored higher than this score.
<b>Pseudoword Decoding Speed</b>	The score is the same as or higher than the scores obtained by 5% of students in the normative sample; 95% of students in the normative sample scored higher than this score.



**Subtest Component Score Summary**

Subtest Component	Standard Score	Percentile Rank	Qualitative Description
<b>Oral Reading Fluency</b>			
Oral Reading Accuracy	102	55	Average
Oral Reading Rate	65	1	Far Below Average
<b>Essay Composition</b>			
Grammar and Mechanics	91	27	Average

**Subtest Component Score Summary**

Subtest Component	Standard Score	Percentile Rank	Qualitative Description
<b>Sentence Composition</b>			
Sentence Combining	105	63	Average
Sentence Building	104	61	Average
<b>Essay Composition</b>			
Word Count	92	30	Average
Theme Development and Text Organization	94	34	Average

**Differences Between Composite Standard Scores**

Comparison	Difference	Critical Value (Significance Level .05)	Significant Difference Y/N	Base Rate
Total Reading vs. Basic Reading	-11	5.88	Y	<=5%
Total Reading vs. Reading Comprehension and Fluency	11	7.93	Y	<=10%
Total Reading vs. Written Expression	-15	6.83	Y	>15%
Total Reading vs. Mathematics	-48	5.70	Y	<=1%
Basic Reading vs. Reading Comprehension and Fluency	22	8.06	Y	<=10%
Basic Reading vs. Written Expression	-4	6.98	N	>15%
Basic Reading vs. Mathematics	-37	5.88	Y	<=1%
Reading Comprehension and Fluency vs. Written Expression	-26	8.77	Y	<=5%
Reading Comprehension and Fluency vs. Mathematics	-59	7.93	Y	<=1%
Written Expression vs. Mathematics	-33	6.83	Y	<=1%

**Note.** A negative difference indicates that the second composite has a higher score than the first composite listed in the comparison.

**ABILITY-ACHIEVEMENT DISCREPANCY ANALYSIS**

Ability Score: WAIS-IV FSIQ: 117

**Predicted Difference Method**

	Predicted WIAT-III Score	Actual WIAT-III Score	Difference	Critical Value .05	Significant Difference Y/N	Base Rate
<b>WIAT-III Composite</b>						
Total Reading	112	85	27	5.89	Y	<=1%
Basic Reading	110	96	14	4.83	Y	<=15%
Reading Comprehension and Fluency	112	74	38	9.26	Y	<=1%
Written Expression	111	100	11	7.12	Y	>15%
Mathematics	112	133	-21	5.87	Y*	N/A

**Note.** Base rates and standard deviation discrepancies are not reported when the actual achievement score equals or exceeds the predicted achievement score.

\*Indicates that the actual achievement score exceeds the predicted achievement score.

**ABILITY-ACHIEVEMENT DISCREPANCY ANALYSIS**

Ability Score: WAIS-IV GAI: 132

**Predicted Difference Method**

	Predicted WIAT-III Score	Actual WIAT-III Score	Difference	Critical Value .05	Significant Difference Y/N	Base Rate
<b>WIAT-III Composite</b>						
Total Reading	121	85	36	6.10	Y	<=1%
Basic Reading	118	96	22	5.01	Y	<=5%
Reading Comprehension and Fluency	120	74	46	9.40	Y	<=1%
Written Expression	119	100	19	7.25	Y	<=10%
Mathematics	120	133	-13	6.05	Y*	N/A

**Note.** Base rates and standard deviation discrepancies are not reported when the actual achievement score equals or exceeds the predicted achievement score.

\*Indicates that the actual achievement score exceeds the predicted achievement score.

Woodcock/Johnson IV (WJ-4) Tests of Achievement

The Woodcock/Johnson IV (WJ-4) Tests of Achievement are untimed, with the exception of the fluency tests, and reflect a person's ability to perform tasks when they are able to use any strategies they have developed to compensate for any weaknesses they may have in information processing. Descriptive statements are provided, ranging from far below average to very superior, based on the standard score. Jessica was compared to other adults her age in the general population.

The Reading Rate Cluster provides a measure of automaticity when reading single words and single sentences. It is derived from the Sentence Reading Fluency and Word Reading Fluency subtests. The Word Reading Fluency subtest allows three minutes for the examinee to read rows of four words and mark two words in each row that are either synonyms, antonyms or members of the same category. The Sentence Reading Fluency subtest allows three minutes for the examinee to read sentences and mark them as true or false. Jessica's Reading Rate Cluster score of 66 is in the Far Below Average range, which is higher than 1% of other individuals her age. Her Word Reading Fluency score of 58 is in the Far Below Average range, which is higher than 0.2% of other individuals her age. Her Sentence Reading Fluency score of 78 is in the Well Below Average range, which is higher than 7% of other individuals her age.

**TABLE OF SCORES**

*Woodcock-Johnson IV Tests of Achievement Form B and Extended (Norms based on age 28-1)*

<b>CLUSTER/Test</b>	<b>GE</b>	<b>RPI</b>	<b>Proficiency</b>	<b>SS (95% Band)</b>	<b>SS Classification</b>	<b>PR</b>
READING RATE	3.9	1/90	Extremely Limited	66 (57-75)	Far Below Average	1
Sentence Reading Fluency	5.2	5/90	Very Limited	78 (67-88)	Well Below Average	7
Word Reading Fluency	3.0	0/90	Extremely Limited	58 (45-71)	Far Below Average	0.2

GRAY-ORAL READING TESTS-FIFTH EDITION

The Gray-Oral Reading Tests-Fifth Edition (GORT-5) is a comprehensive measure of reading fluency with separate measures for speed, accuracy, overall fluency of combined speed and accuracy, and comprehension. Jessica's performance was compared to a group of individuals aged 19 through 23 years, which is the oldest group available for comparison. The GORT-5 was administered because it is the most comprehensive and robust measure available that reflects functioning when oral reading fluency and reading comprehension are simultaneously required. The GORT-5 passages reflect a broader range of complex reading than other measures of oral reading fluency such as the WIAT-III Oral Reading Fluency subtest.

The GORT-5 provides separate measurements of speed, accuracy, comprehension, and an overall measure reflecting the three components combined. The oldest normative age group available for comparison is a group of 19-year-old to 23 year-11-month-old adults. The GORT-5 scores of Rate, Accuracy, Fluency and Comprehension were demonstrated to have a strong correlation with age in the normative sample until age 13, with the progression of raw score gains getting smaller with each year of age until plateauing in the ages of the oldest normative age group.

Jessica's Rate score of 3 is far below average and is higher than 1% of other individuals in the comparison group. The Accuracy score reflects the number of decoding errors, omitted words, inserted words and repetitions. Her Accuracy score of 5 is well below average and is higher than 5% of other individuals in the

comparison group. The Fluency measure is derived from combining the Rate and Accuracy scores and is a measure of overall oral reading fluency. Jessica's Fluency score of 4 is well below average and is higher than 2% of other individuals in the comparison group. She was able to correctly read most of the words, but her reading was slow. Jessica read in short two-to-four words phrases and her oral reading was very halting with many repetition of words and self-corrections. The Comprehension measure is derived from open-ended questions about the content of each passage. Jessica's Comprehension score of 3 is extremely below average and is higher than 1% of other individuals in the comparison group. The Oral Reading Index (ORI) is derived from the Fluency and Comprehension subtests. The ORI is an overall measure of oral automaticity and reading comprehension. Jessica's Oral Reading Index score of 65 is extremely below average and is higher than 1% of other individuals in the comparison group.

#### Nelson-Denny Reading Test

The Nelson-Denny Form H was administered with the standard time administration to Jessica and includes three subtests (Vocabulary, Comprehension and Rate). The questions are presented in multiple-choice answer options. Four scores are calculated: Rate, Vocabulary, Comprehension and Total Reading. The first subtest, Rate, is calculated from the number of words read silently during the first sixty seconds of the Comprehension subtest. The Vocabulary subtest has a standard time limit of fifteen minutes and consists of 80 multiple-choice items, each with five response options. The words were drawn from high school and college textbooks and vary in difficulty. The second subtest, Comprehension, has a standard time limit of twenty minutes and requires examinees to read as many of the seven passages as they can (also drawn from high school and college textbooks) and to respond to as many of the total of 38 multiple-choice questions about the contents of these passages. The Total Reading score is derived by summing the Vocabulary raw score with the Comprehension raw score.

Jessica completed Form H and her performance was compared to second semester grade-16 university students. Jessica's Rate score is far below average, at the 1<sup>st</sup> percentile rank. She correctly answered 49 of the 52 Vocabulary items (94%) she was able to attempt during the standard time limit. Her Vocabulary score is below average, at the 11<sup>th</sup> percentile rank and is a 13.1 grade-equivalent score. She correctly answered 17 of the 18 Comprehension items (94%) she was able to attempt during the standard time limit. Jessica's Comprehension score is far below average, at the 2<sup>nd</sup> percentile rank and is an 8.7 grade-equivalent score. Her Total Reading score is well below average, at the 4<sup>th</sup> percentile rank and is a 10.6 grade-equivalent score.

Jessica's performance was also compared with second semester grade-12 high school students. This comparison resulted in a Rate score that is far below average, at the 1<sup>st</sup> percentile rank. Her Vocabulary score is average, at the 54<sup>th</sup> percentile rank compared to high school seniors. Jessica's Comprehension score is low average, at the 18<sup>th</sup> percentile rank compared to high school seniors. Her Total Reading score is average, at the 33<sup>rd</sup> percentile rank compared to high school seniors.

The Nelson-Denny was originally normed to allow for the individual's performance to be compared to other individuals in grades 9 through 16. Additional norms for healthcare professionals were developed in 2001. These norms were developed from a group of 635 medical students, 269 dental students, 176 physical therapy students and 42 interns (Haight, P.A., & Walls, R.T. Adult Learners: New Norms on the Nelson-Denny Reading

Test For Healthcare Professionals. Reading Psychology 2002, 23, 217-238). Jessica's performance was compared to this group. Her Rate score is in the Far Below Average range, at the 1<sup>st</sup> percentile rank. Her Vocabulary score is in the Far Below Average range, at the 1<sup>st</sup> percentile rank. Jessica's Comprehension score is also in the Far Below Average range, at the 1<sup>st</sup> percentile rank. Her Total Reading score is in the Far Below Average range, at the 1<sup>st</sup> percentile rank.

## **Discussion and Summary**

The Test of Memory Malinger (TOMM) measure is a symptom validity measure and was administered to detect whether Jessica was making suboptimal effort, either consciously or unconsciously. The examinee is not informed as to the purpose of this measure and in fact was told that it measured an important memory component underlying reading skill. The absence of indication of suboptimal effort on the TOMM is an indication that Jessica's effort was not suboptimal. Her performances on reading and writing tests was also highly variable, ranging from average to below average. In the context of her request for accommodations due to a reading impairment, the reading and writing scores that are within the average range are inconsistent with poor effort from either conscious or unconscious intent. Jessica's overall demeanor and pattern of test scores reflect maximum effort on her part and it is concluded that her current test scores are an accurate measure of her functioning.

The Full-Scale IQ (FSIQ) composite score is derived from ten subtest scores and is usually considered the most representative estimate of global intellectual functioning. Jessica's FSIQ score is within the high average range and exceeds those of approximately 87% of individuals her age (FSIQ=117; 95% confidence interval=113-121). She performed slightly better on nonverbal than on verbal reasoning tasks, but there is no meaningful difference between Jessica's ability to reason with and without the use of words. However, her Processing Speed Index score of 79 is significantly and uncommonly below the Verbal Comprehension Index and the Perceptual Reasoning Index scores. Consequently, her FSIQ score does not accurately reflect her optimum intellectual ability. Jessica's optimum intellectual capacity is most accurately reflected in the General Ability Index (GAI), which is calculated from the VCI and PRI subtests and does not include the attention related Working Memory Index and Processing Speed Index subtest score. Jessica's GAI score is significantly higher than her FSIQ score by a very uncommon margin estimated to occur in only 0.4% of the general population. Jessica's GAI score of 132 is in the very superior range and is higher than 98% of other adults her age.

Current diagnostic criteria for a diagnosis of a specific learning disorder in the DSM-5 requires that reading, writing or math scores be substantially below average compared to other individuals Jessica's age and cause a significant interference with academic performance. However, the designation of "average" and "below average" is acknowledged to be arbitrary with no clear cut-off score to indicate what is below average and causes significant interference with academic performance. A standard score of 78 or less, which is below the 7<sup>th</sup> percentile, offers the greatest diagnostic certainty. However, scores vary because of test imprecision, and clinical judgment is allowed. A more lenient threshold of scores of below one standard deviation (standard score 84 or lower) is applicable when learning difficulties are supported by converging evidence from assessment, academic history and school reports. While learning difficulties are generally exhibited during the early school years, they may not become evident until later school years when demands on academic skills

exceed the individual's restricted capacities. Some individuals with impaired functioning may obtain average or better grades that are achieved through extraordinarily high levels of effort and support until the pace of completing tasks and assessment mechanisms that rely on the impaired skill exceeds the individual's compensatory strategies. Consequently, the individual with specific impairments is unable to complete tasks that rely on the impaired skills or demonstrate what she has actually learned through assessment mechanisms that rely on these specific skills. A discrepancy between aptitude and academic achievement scores is no longer a DSM-5 diagnostic criteria indicating a specific learning disorder; however, the presence of substantial discrepancies between aptitude and achievement skill provide important information reflecting an abnormal degree of struggle that persists despite compensatory efforts.

Jessica's Mathematics Composite (MC) score of 133 is in the far above average range and above those of 99% of other adults her age. Consequently, a specific learning disorder with impairment in mathematics is not indicated.

The specific learning disorder of developmental dyslexia is a neurologically-based condition that results in an unexpected difficulty acquiring an understanding of letter-phoneme relationships, acquiring a capacity for efficiently processing phonological information, or developing rapid, automatic reading fluency (either oral or silent). A persistent weakness in phonological processing significantly impedes developing accurate word recognition, automatic, effortless word recognition-fluency and reading comprehension. Reading fluency is considered to be a complex capacity to read passages rapidly, smoothly, and automatically, with little effort or conscious attention to the mechanics of reading, which then allows the majority of mental capacity to be directed to reading comprehension. Dyslexic readers may be able to acquire the capacity to accurately identify or decode words through remedial efforts, but typically have difficulty acquiring automatic oral reading fluency or rapid silent reading rate. Some dyslexic readers may develop the capacity for rapid oral reading fluency or rapid silent reading, but typically at the expense of reading comprehension. The dyslexic reader lags behind the non-dyslexic reader in developing automatic word recognition capacity and must use more of his or her attention and working memory capacity to the task of identifying words than the non-dyslexic reader, which interferes with comprehension.

Many dyslexic readers compensate for the limitations in automatic word recognition through over-relying on the use of the context. The reliance on context results in the reader being hesitant and pausing in order to infer the identity of words from the surrounding words they can identify. They may make an "educated guess" when they reach an unknown word or correct a word they realize they have misread because of their restricted automaticity. They may also misread a word only to read on and realize their mistake from the context and then reread the phrase or sentence with the correct word (although sometimes a still incorrect word) inserted. The result of such an overreliance on context is a monotone prosody that is characterized by short, choppy word groupings, some word-by-word reading, pauses, omissions, added words, rereading or self-corrections. By contrast, non-dyslexic readers' phonological skills increase with practice and they become automatic in their word recognition with little need to rely on the context of the words previously identified. Automaticity occurs without conscious thought or effort and leaves more cognitive resources available for attention, comprehension and retention.

Dyslexic readers may score well on a test of reading comprehension by using context, but they are spending more of their mental energy to do so than the non-dyslexic reader. The dyslexic reader's comprehension capacity is therefore fragile and prone to errors. They may manage to function at seemingly adequate levels during a relatively brief test of reading, but still have difficulty sustaining such comprehension levels because of mental fatigue. Therefore, reading performance can be erratic.

Impaired dyslexic readers frequently encounters words in print that are within their vocabulary and that they have seen before, but remain unfamiliar when presented in print. In place of oral reading fluency that results from effortless automatic word recognition, the impaired dyslexic reader has to rely on compensatory strategies such as overreliance on the context of the passage and/or repeatedly reading the same passage to identify unrecognized words through inference from surrounding words. As a result, the dyslexic reader may achieve accurate word reading through very slow, careful reading and rereading of passages. Alternatively, when reading rapidly, uncertainty and impaired oral reading fluency will be revealed through limited voice inflection (prosody), halting two-to-four word phrases, repetitions, omitted words, added words and mispronounced words, which often results in inconsistent reading comprehension.

Jessica exhibited a pattern of reading scores typical of the dyslexic reader described above. The previous evaluation utilized an instrument that did not provide a comprehensive assessment of the component skills involved in efficient practical reading exhibited by the non-impaired reader, which encompasses most people in the general population. Jessica's basic reading skills are within the average range when not limited by time restrictions as measured by the WIAT-III Basic Reading Composite score of 96, which is higher than 39% of other adults her age. Jessica's grasp of basic phonics is in the average range as measured by the WIAT-III Pseudoword Decoding score of 95 that is higher than 37% of other adults her age. Jessica's WIAT-III Word Reading score of 100 is in the average range and she was able to read single words fairly accurately.

The WIAT-III Word Reading and Pseudoword Decoding subtests also have an additional separate component measure of the speed at which she read the list of words. The examinee is covertly timed on the WIAT-III Basic Reading subtests. The examinee is instructed to read the lists as well as they can, but the instructions specifically avoid any mention of speed, or that they are being timed, and no timing device was visible to Jessica. The efficiency and speed at which she read these pseudowords was slower than 95% of other adults her age and the efficiency at which she read these real words was slower than 98% of other adults her age.

Jessica's reading rate and level of oral reading fluency was further assessed through four different measures. The WIAT-III Oral Reading Fluency subtest and the Gray-Oral Reading Tests-Fifth Edition measure speed and accuracy of word decoding in passages with conceptually connected content, which allow for observations of her degree of automatic oral word recognition and decoding. The WJ-4 Reading Rate Cluster and the Nelson-Denny Reading Test are measures of silent reading fluency, which rely on how many reading comprehension tasks are correctly completed within a set time limit. Overall, measures of her reading fluency encompassing reading speed resulted in performances that were well below average and far below average compared to other individuals her age and grade level. Jessica obtained a WIAT-III Oral Reading Fluency score of 67, which is in the far below average range and reflects a relative weakness with oral reading fluency. Her GORT-5 oral reading was very slow and replete with many accuracy errors. Her GORT-5 Rate scaled score of 3 is higher than



1% of other individuals from a group of individuals age 19 years through 23 years, and her Accuracy scaled score of 5 is higher than 5% of other individuals from that group. Her Fluency scaled score of 4, which is a combination of the Rate and Accuracy performance, is in the well below average range and is higher than only 2% of the comparison group.

The WJ-4 Reading Rate Cluster and the Nelson-Denny Reading Test are measures of silent reading fluency that rely on the number of correct responses to reading comprehension items completed within a time limit. The WJ-4 Reading Rate Cluster measures reading speed by way of the number of correct responses completed and is derived from the time-limited Sentence Reading Fluency and time-limited Word Reading Fluency subtests. Jessica's Reading Rate Cluster score of 66 is in the Far Below Average range and is higher than 1% of other adults her age. Jessica was only able to read three of the seven NDRT passages and attempted only 47% of the 38 Comprehension items on the standard-time Comprehension administration. She correctly answered 94% of the Comprehension items she attempted. A majority of high school seniors were found to be able to read all seven passages and attempt all 38 Comprehension items. In addition, Jessica's Nelson-Denny Rate score was lower than 99% of high school seniors.

Jessica's reading comprehension was measured both by means that were not influenced by being required to read quickly or restricted by time limits and by measures that required her to read quickly or were restricted by time limits. Her reading comprehension performance was in the average range when not impacted by speed or time limits. Her reading comprehension performance was in the below average range when impacted by speed or time limits. The WIAT-III Reading Comprehension subtest reflects reading comprehension under conditions when reading is untimed. She obtained a WIAT-III Reading Comprehension subtest score of 94 that is in the Average range and is higher than 34% of other individuals her age.

The GORT-5 Comprehension subtest and the Nelson-Denny Reading Test reflects reading comprehension under conditions when speed is emphasized or time is restricted. On the GORT-5, Jessica was specifically instructed to read passages out loud "as carefully and as quickly as you can." The GORT-5 passage was then removed from sight after she completed the passage and she was asked five open-ended questions about the content of the passage. Her GORT-5 Comprehension scaled score of 3 is in the far below average range and is higher than only 1% of the comparison group. The Nelson-Denny Reading Test (NDRT) measured her performance on a timed test. She correctly answered 94% of the Comprehension items she was able to attempt during the standard twenty-minute time limit. Jessica's NDRT Comprehension score is near the bottom of the low average range at the 18<sup>th</sup> percentile compared to grade-12 students, in the Far Below range at the 2<sup>nd</sup> percentile compared to grade-16 university students, and in the Far Below Average range at the 1<sup>st</sup> percentile compared to medical and healthcare students.

Jessica's pattern of reading scores is consistent with the pattern typically exhibited by dyslexic readers who have developed strategies to compensate for their reading impairment. Jessica's overall basic reading skills are in the average range as measured by the WIAT-III Basic Reading Composite score of 96, which reflects word decoding skills under untimed conditions. She has been able to acquire an average level of reading comprehension skills when allowed sufficient time to employ compensatory strategies, but exhibits



persistently impaired reading rate and reading fluency compared to other adults her age, as reflected in WJ-4 Reading Rate Cluster, the GORT-5 Fluency and the Nelson-Denny Rate and Comprehension scores.

Although discrepancies between reading scores and aptitude scores are no longer one of the diagnostic criteria, such discrepancies reflect the frequency of the degree of unexpected struggle that occurs in the general population. Jessica's WIAT-III Total Reading Composite score of 85 is significantly below her Mathematics Composite score of 133 by a very uncommon margin estimated to occur in less than 1% of other individuals in the general population, which is a reflection of the difficulty she has experienced specific to acquiring reading skills. Her WIAT-III Mathematics Composite score of 133 is commensurate with an expected score of 120 predicted by her GAI score. However, all of her WIAT-III reading composite scores are significantly below expectation whether the expectation is measured with the FSIQ or the GAI score. Jessica is expected to have a WIAT-III Reading Comprehension and Fluency Composite score of 112 predicted from her FSIQ score but her actual Reading Comprehension and Fluency Composite score is 74. This is a very uncommon discrepancy of 38 points estimated to occur in 1% or less of other adults. Similar very uncommon discrepancy margins can be seen between her predicted scores and her actual WIAT-III Basic Reading Composite and Reading Comprehension-Fluency Composites with even larger discrepancies based on her GAI score. Jessica's history and pattern of reading scores indicate and warrant a diagnosis of Specific Learning Disorder with impairment in reading that involves reading rate, reading fluency and reading comprehension. Her impairment in reading is exacerbated by the effects of ADHD. The severity of her impairment in reading is severe.

Double the usual time for any timed test is recommended because of Jessica's very slow reading speed and difficulty comprehending the content of passages. The letter of September 11, 2018, from Dr. Farmer denying extended time stated that the 2017 evaluation by Dr. Lewandowski reported that "your reading, spelling and arithmetic are normal to above normal." However, the only test of her reading skills used by Dr. Lewandowski was the Wide Range Achievement Test-4<sup>th</sup> Edition (WRAT-4), which does not measure reading speed, reading fluency or the impact of these on comprehension. The WRAT-4 is considered to be an insufficient instrument as the primary assessment of reading, writing, or math skills. The USMLE Guidelines for Testing Accommodations specifically states, "The Nelson-Denny Reading Test (NDRT) and Wide Range Achievement Test (WRAT) are not comprehensive diagnostic measures of achievement and therefore neither is considered acceptable if used as the sole measure of reading ability or academic skills."

Dr. Farmer also stated that "documentation does not demonstrate a developmental history of impaired scholastic skills." Although not formally identified in her academic records, the records she provided this examiner reflect specific statements by her (and referred to in Dr. Lewandowski's report) about the difficulty she experienced from her earliest elementary years in acquiring reading and writing skills. Dr. Farmer cited her high school grade point average as proof that she did not reflect developmental history of impaired academic functioning when in fact she stated that she achieved her high grades because of the inordinate amount of time she had to devote to school work when compared to other students, as well as the informal accommodations she received. Dr. Farmer further cited her scores on the ACT and MCAT as proof that her academic functioning was not impaired. The ACT and MCAT are not comprehensive diagnostic measures of reading or other academic skills any more than the WRAT is, and the scores she managed to attain are as

much a reflection of the compensatory effects of her superior intellect rather than an absence of reading impairment. While her scores on the ACT and the MCAT were good, she may have scored significantly higher if she had taken these tests with accommodations of a separate room and extended time. Consequently, the ACT and MCAT scores do not provide an indication of the negative impact of her reading disability.

It is noteworthy that recent students with her MCAT score, while good at the 79<sup>th</sup> percentile combined with her college GPA, only had an acceptance rate of 38% according to the Association of American Medical Colleges. Dr. Farmer also stated in reference to Dr. Lewandowski's evaluation that "Your evaluator's conclusions notwithstanding, he reports that her performances on a computerized measure of attention-related problems, the Conners Continuous Performance Test Third Edition (CPT-3) are normal." However, according to a leading ADHD researcher and specialist, "... a sizable minority of adults with ADHD can perform these tests sufficiently well to make for an unacceptable level of false negatives for these tests."<sup>1</sup> The DSM-5 specifically states that, "Inattentive behavior is associated with various underlying cognitive problems on tests of attention, executive function, or memory, although these tests are not sufficiently sensitive or specific to serve as diagnostic indices." Consequently, neuropsychological tests including continuous performance tests, can provide supplementary evidence for ADHD, but seemingly normal performance cannot be used to rule out the condition.

Jessica's writing skills are in the middle of the average range compared to other adults her age as measured by the WIAT-III Written Expression Composite score of 100, which is as high or higher than 50% of other adults her age. The subtests and component scores are also within the average range for her age. Consequently, a specific learning disorder with impairment in written expression is not indicated. However, Jessica's WIAT-III Written Expression Composite score of 100 is significantly below an expected score of 119 predicted by her GAI score of 132 and by an uncommon margin estimated to occur in 10% or less of the general population. This pattern represents a significant relative weakness performing writing tasks, which is presumed to be a consequence of her reading disorder and the ADHD. Jessica can be expected to be relatively slow at organizing and expressing her thoughts in writing at a level commensurate with her intelligence, which is reflected in the distinct weakness she exhibited with general processing speed as measured by the WAIS-IV. Consequently, additional time is needed on writing tasks in order to perform at a level commensurate with her intelligence.

Jessica Ramsay is a 28-year-old, single female medical student with superior intelligence who has a long history of inattention, distractibility and hyperactivity that have significantly interfered with academic functioning since early childhood. Jessica has been able to perform well academically, but has had to rely on extraordinary compensatory strategies in order to do so. Jessica's academic and behavioral history reflect DSM-5 diagnostic criteria indicating ADHD, Combined Presentation.

Jessica reported often experiencing 17 of the 18 DSM-5 criteria symptoms associated with ADHD that have persisted for at least the past six months with most having been present since her earliest years in school. The persistently frequent manifestation of these symptoms was corroborated by her mother and her fiancé. On a

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<sup>1</sup> Barkley, R., Murphy, K., Fischer, M. (2008). ADHD IN ADULTS: What The Science Says (p. 433). New York, NY: The Guilford Press.

systematic rating score of the frequency of occurrence of the DSM-5 ADHD symptoms, Jessica endorsed 17 (her mother, 14 and fiancé, 11) of the 18 criteria that are associated with a diagnosis of ADHD. Only 5 inattention or 5 hyperactive-impulsive symptoms are required to be frequently and persistently present over the previous six months. The ADHD symptoms described or endorsed by Jessica, her mother and fiancé are prominently exhibited at school, at her home and with her interpersonal relationships. These symptoms were reported by Jessica and corroborated by her mother to have interfered with and reduced the quality of her academic functioning and her daily adaptive functioning since her earliest school years.

The available school records do not clearly reflect academic struggles in elementary, middle or high school, but this is a result of the family obtaining help on an informal basis, which was very successful in preventing poor academic grades, and therefore masked the degree of struggle Jessica experienced during these years. In addition, the specificity of Jessica's descriptions, which are corroborated by her mother, attest to the presence of such struggle. Although Jessica has worked hard at compensating for her deficits, her symptoms have continued to significantly interfere with her life. Results of the IVA+Plus, a computerized test of sustained attention and distractibility, reflect a severe impairment compared to other adults her age. In addition, her WAIS-IV Processing Speed Index score at only the 8<sup>th</sup> percentile for her age reflects a weak cognitive efficiency highly associated with ADHD. Jessica's symptoms are not better explained by any other psychiatric or medical condition. Her medical exams with her physician do not indicate a physical disorder or disease other than ADHD and a Specific Learning Disorder with impaired reading that would account for her ADHD symptoms or academic difficulties. Jessica's mental status and the magnitude of her psychological symptoms do not indicate a psychological condition severe enough to account for her ADHD symptoms or her academic difficulty. Jessica has also experienced longstanding feelings of discouragement, frustration, and anxiety which are best understood to be a direct secondary consequence of her underlying ADHD symptoms. Consequently, a diagnosis of ADHD, Combined Presentation is warranted in addition to a Specific Learning Disorder with impairment in reading.

**Diagnosis: DSM-5 criteria synchronized with ICD-10-CM numerical coding**

1. Specific Learning Disorder with impairment in reading (developmental dyslexia): reading comprehension, severely impaired reading rate and fluent word recognition, 315.00 (F81.0)
2. Attention-Deficit/Hyperactivity Disorder Combined Presentation 314.01 (F90.2)

**Recommendations:**

1. Jessica's pattern of reading and writing scores is typical of the intelligent dyslexic reader who struggles with efficient decoding and processing of the printed words, but can use her intelligence to substantially compensate and extract seemingly adequate comprehension from passages. However, the intelligent dyslexic reader's reading comprehension is fragile and susceptible to abrupt lapses and failure that interferes with academic achievement commensurate with her intelligence. Jessica's level of reading impairment is severe and can be expected to significantly and substantially interfere with educational efforts without accommodations such as extended time. Her impaired reading skills significantly interfered with her performance on the Nelson-Denny Reading Test because of the standard time limit. Jessica correctly answered most of the items she attempted on Nelson-Denny Reading Test, but she indicated this required her to reread passages multiple times in order to gain adequate comprehension. Consequently, her percentile rank scores were severely limited because of the time constraints. Jessica correctly completed 94% of the Comprehension items she attempted, but was only able to attempt 47% of the Nelson-Denny Comprehension items during the standard time limit.

Consequently, it is recommended that Jessica receive at least double the standard time allowed for tests and exams. Any classroom test or standardized test administered without the accommodation of extended time (double) will not be an accurate and valid measure of Jessica's knowledge in a given area. Likewise, Jessica's weakness in writing can be expected to significantly and substantially interfere with educational and assessment efforts without accommodations such as extended time. Any tests administered without extended time (at least double) should be regarded a significant and substantial under-representation of Jessica's actual abilities and knowledge, which impairs her access to the exam. Therefore, it is also recommended that at a minimum she be allowed extended time (double the standard time) for any classroom tests, standardized tests and classroom assignments.

2. At least 100% additional test time (double time) is also recommended because of her inattention, distractibility, and slow information processing. This should be used in conjunction with a private, quiet room and additional break time to address basic needs and to adequately manage ADHD symptoms and her medical disorders. Any test administered without these accommodations will not be an accurate measure of what she knows about the subject being assessed.
3. The use of a computer, computer word-processing software with spell-check, and extended time is recommended for any classroom tests or standardized tests that involves writing. The extended time is also necessary to adequately utilize any assistive technology for reading and writing.
4. Reading material should also be provided to Jessica in audio recorded format. An online certification has been completed to allow her to apply for a Learning Ally ([learningally.org](http://learningally.org)) membership.

5. Tutorial support and assistance from the college academic support services for her reading and writing problems is recommended as needed to help Jessica function at a level commensurate with her intellectual abilities.
6. Remedial reading instruction following the Orton-Gillingham approach may be beneficial for her dyslexia and is recommended for consideration. This is available through MDI. However, this is a slow process and unlikely to benefit her while she is in medical school. Also, improvement of reading fluency is uncertain and it is unknown what benefit, if any, she may obtain from such instruction.
7. Continue treatment through her physician for ADHD with medications such as Concerta, Adderall, Intuniv, Strattera, Vyvanse, Wellbutrin or Provigil.

A handwritten signature in black ink that reads "Robert D. Smith". The signature is written in a cursive style with a horizontal line underneath the name.

Robert D. Smith, PhD  
Licensed Psychologist  
Neuropsychologist

## **Exhibit C**

**Letter from Constance Farmer, Psy.D.,  
dated 9/11/2018**



National Board of Medical Examiners  
3750 Market Street  
Philadelphia, PA 19104-3102

215-590-9500 phone  
www.nbme.org

**Confidential**  
**Confirmation of Test Accommodations**

September 11, 2018

**Via E-mail to [jessica.ramsay@med.wmich.edu](mailto:jessica.ramsay@med.wmich.edu)**

Jessica E. Ramsay  
6862 Tall Oaks Dr  
Apt 3B  
Kalamazoo, MI 49009

RE: USMLE Step 1

USMLE ID#: 5-366-431-4

Dear Ms. Ramsay:

We have thoroughly reviewed the documentation provided in support of your request for test accommodations for the United States Medical Licensing Examination (USMLE) Step 1. We conducted an individualized review of your request in accordance with the guidelines set forth in the amended Americans with Disabilities Act (ADA).

You report the basis of your request for double testing time, additional break time, and a private testing room to be Learning Disabilities in Reading and Writing (with abnormal Scanning and Processing Speed) diagnosed in 2017, Attention-Deficit/Hyperactivity Disorder (ADHD) diagnosed in 2009, Migraines with aura, without status migrainosus diagnosed in 1997, and Clotting disorder with recent deep vein thrombosis and Post-thrombotic syndrome diagnosed in 2016. In your personal statement you write, *"During my undergraduate studies at Ohio State University, the demands of school, work and life finally began outweighing my ability to self-accommodate, requiring more time and energy than I had...In 2009, at the suggestion of a professor, I sought help from my primary care physician, Dr. Allen Smiy, who diagnosed me with ADD, inattentive type, for which he began medical management...Once I started receiving accommodations, I was able to perform better on my exams because I had more time to read, write, and work through questions...In medical school, I received more accommodations to meet the increased curricular demands. Most notably, I was granted 100% additional testing time, unlimited free printing, and Kurzweil 3000 text-to-speech software...In the context of the USMLE Step exams, without appropriate accommodations, I will not have the opportunity to get through as many questions or as much content as everyone else taking the tests, and I will not be able to accurately demonstrate all that I have learned thus far."*

In a June 4, 2018 letter addressed To Whom It May Concern, Bruce Ruekberg, M.D. writes to support your request for accommodations for Step 1. Dr. Ruekbert writes, *"After conferring with Jessica and reviewing her clinical history, collateral information, and neuropsychology testing, I recommend the following accommodations to address her needs for USMLE Step 1 exam: 100% additional testing time...Additional break time...A private, quiet room...In my professional opinion, due to her functional limitations due to Attention Deficit and Hyperactivity Disorder, Combined Type(DSM-5 314.01; ICD-10 F90.2) and specific learning disorder of 'abnormal scanning and processing speed' (ICD-10 F81.9)*

**Exhibit C**



Jessica E. Ramsay  
USMLE ID#: 5-366-431-4

September 11, 2018  
Page 2 of 3

*with impairments in reading (DSM-5 315.00; ICD-10 F81.0) and written expression (DSM-5 315.2; ICD-10 F81.81), Jessica, without question, is a qualified person with disabilities under the ADA...*

In an October 2017 report of Neurocognitive Consultation and December 2017 report Neurocognitive Examination conducted when you were a 27-year-old medical student, Alan Lewandowski, Ph.D. writes, *"The patient describes a chronic academic disability without progressive pattern for a number of years that has compromised her ability for educational success. She describes a history of ADD for which she was able to self-accommodate for many years, and reports being evaluated for ADD and dyslexia in 2014 by a therapist (credentials unknown)...As a result, she reports she was provided accommodations throughout medical school but was denied accommodations for the United States Medical License Examination (USMLE) Step 1. The patient presents today requesting a more comprehensive assessment in order to obtain accommodations similar to that which she was allowed throughout medical school...The patient describes herself as having a 'unique learning style.'"* Dr. Lewandowski provides his clinical impression of Attention deficit disorder and learning difficulties affecting ability to pass standardized testing by history and Attention deficit disorder, hyperactive, moderate (F90.1) and Learning disability, nonverbal (abnormal scanning and processing speed) (F81.9) by diagnostic testing. Your evaluator's conclusions notwithstanding, he reports that your performances on a computerized measure of attention-related problems, the *Conners Continuous Performance Test, Third Edition (CPT-3)*, are normal. He does not describe how you meet diagnostic criteria for any *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* disorder.

The ICD-10 code F81.9 that Dr. Lewandowski assigned as a result of his 2017 evaluation is described by the publisher as Developmental disorder of scholastic skills, unspecified. However, your evaluator notes that your reading, spelling and arithmetic are normal to above normal and consistent with past education. Furthermore, your documentation does not demonstrate a developmental history of impaired scholastic skills. Dr. Lewandowski writes that you reported earning a high school GPA of 3.8 and an ACT Score between 27 and 30. The records provided show that you earned an MCAT score of 30M under standard conditions in 2011, better than 79% of a highly select group of medical school applicants. These data do not demonstrate a developmental history of impaired cognitive or academic functioning or that standard testing time is a barrier to your access to the USMLE.

You write, *"Because of my clotting disorder and DVT, I must take frequent breaks throughout the day, and briefly during the exam blocks, to move and walk around in order to maintain adequate circulation in my legs, reduce swelling and pain, and decrease the risk of forming another DVT as a result of my clotting disorder...Because my migraines are triggered by excessive fatigue from trying to focus, read, and process the questions, having frequent breaks with adequate time to recuperate between blocks reduces the likelihood that I will get a migraine during the exam."*

In a May 29, 2018 letter addressed To Who It May Concern, Jennifer N. Houtman, M.D. reports that additional break time will allow you to relax and refocus between sections, avoid a migraine headache from prolonged focus, and prevent lower extremity pain, swelling, and development of another blood clot.

Accommodations are intended to provide access to the USMLE testing program for individuals with a documented disability as defined by the ADA. A diagnostic label, in and of itself, does not establish coverage under the ADA, nor does prior receipt of accommodations for a particular activity guarantee that identical accommodations are indicated or will be available in all future settings and circumstances. The ADA defines disability as a physical or mental impairment that substantially limits one or more major life activities compared to most people in the general population.



Jessica E. Ramsay  
USMLE ID#: 5-366-431-4

September 11, 2018  
Page 3 of 3

Accommodations are provided when there is clear documentation of functional impairment and a rationale to demonstrate that the requested accommodation is appropriate to the setting and circumstance. Your documentation does not demonstrate that 100% additional testing time is an appropriate modification of your USMLE Step 1 administration.

Based on a thorough review of all of your documentation, including documentation of a history of DVT and migraines, we will provide the following accommodation(s) for the USMLE Step 1 for which you are currently registered:

- **Additional break time - testing over two days:** The exam will be administered over two days. Day one will be 5 hours in length and will include a 15 minute tutorial and 7 blocks with approximately 20 questions per block. Day two will be 4 hours 45 minutes in length and will include 7 blocks with approximately 20 questions per block. You will have up to 30 minutes to complete each block. You will receive 75 minutes of break time each day, including lunch. You may use break time as needed between blocks. If you complete the tutorial or an examination block in less time than allotted, the unused time will be added to your available break time.
- **Separate testing room in which you may stand, walk or stretch during exam**
- **Permission to read aloud**

You will receive an electronic permit containing the information needed to schedule your exam appointment. Please call Prometric at the number listed on your scheduling permit as soon as you receive it to schedule your appointment.

These accommodations may not be changed at the test center on your scheduled exam day. If you choose not to use these accommodations, please notify Disability Services immediately at [disabilityservices@nbme.org](mailto:disabilityservices@nbme.org) or by calling 215-590-9700 for instructions.

### **Information About Requesting Test Accommodations For Subsequent Step Examinations**

You must notify the USMLE in writing each time you apply for a Step examination for which you require test accommodations. Information and forms to request test accommodations on subsequent USMLE administrations are available at [www.usmle.org/test-accommodations/forms.html](http://www.usmle.org/test-accommodations/forms.html). Follow the instructions on the request form to submit your request for test accommodations at the same time you submit your Step exam application to your registration agency.

Sincerely,



Catherine Farmer, Psy.D.  
Director, Disability Services  
ADA Compliance Officer, Testing Programs

C: Lawrence D. Berger, Esquire to [larry@rcglawoffices.com](mailto:larry@rcglawoffices.com)

## **Exhibit D**

### **A. Lewandowski, Neurocognitive Examination Report dated 12/7/2017**

## Neuropsychology Associates

Neuropsychology - Psychiatry - Clinical Psychology  
4328 West Michigan, Kalamazoo, Michigan 49006 · 375-2222 · Fax: 375-8292

Alan Lewandowski, PHD, FACP  
Board Certified in Neuropsychology  
Helene Pilnick, PHD  
Pediatric Neuropsychology  
JoLynn Cole, MA  
Psychotherapist

Morris Edwards, PHD  
Certified in Biofeedback  
Michael Lyons, PHD  
Clinical Psychology  
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Applied Behavior Analysis

Kevin Kunzer, MD  
Psychiatry  
Bangalore Ramesh, MD  
Psychiatry  
Katelyn Briggs, MA  
Psychotherapist

**NEUROCOGNITIVE EXAMINATION**

**Name:** Jessica Ramsay  
**DOB:** August 29, 1990  
**Procedure:** Neurocognitive Study  
**Review date:** December 7, 2017  
**Referred by:** Self  
**Performed by:** A. Lewandowski, Ph. D., FACP

**Reason for Exam** Twenty-seven-year-old right-handed female with 19 years education (3 years medical school) presents for comprehensive neurocognitive diagnostic recheck pursuant to attention and learning difficulties with undetermined etiology and uncertain severity. The primary care physician is Dr. Jennifer Houtman. The preexisting neurological history is unremarkable for CNS disease, insult or injury as a child, adolescent or young adult. Neuroimaging has been completed with MRI and findings are reported to be WNL. The general medical history with *possible* implications for cognitive dysfunction is remarkable for anemia and daily migraines. The psychological history is noted for some type of cognitive testing as a 3 or 4-year-old child and more recently, a consultation three years previously with a counselor who supervised the administration of an abbreviated IQ-achievement test (records not available for review). Current medications include Adderall, Ambien, Tramadol, Xanax and Buspar.

**Technique** Comprehensive neurocognitive examination with HRNB and allied procedures with study date on November 9, 2017. Findings and report are based on test results integrated with additional data including records, behavioral observations of the patient and all other available relevant clinical data. Additional time spent with report analysis, interpretation and integration of test data and results completed on November 16, 2017.

**Findings** See attached graphs and summary table below for raw data.

Jessica Ramsay

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**Report***Bold indicates low normal/abnormal findings*

	Functional Area	Range	Findings	Guideline
<b>Intellectual Functioning</b>	Verbal Comprehension	100 +/- 15	125	Superior
	Perceptual Reasoning	100 +/- 15	131	Very superior
	Working Memory	100 +/- 15	111	High average
	<b>Processing Speed</b>	100 +/- 15	79	<b>Borderline impaired</b>
	General abilities (GAI)	100 +/- 15	132	Very superior
	Cognitive efficiency (CPI)	100 +/- 15	94	Average
	Overall Intellect (FSIQ)	100 +/- 15	117	High average
<b>Academic</b>	Reading	100 +/- 15	114	High average
	Spelling	100 +/- 15	109	Average
	Written arithmetic	100 +/- 15	110	High average
<b>Neuropsychological</b>	Sensory speed: dominant	50T +/- 10	50	Normal
	Sensory speed: non-dominant	50T +/- 10	47	Normal
	Motor speed: dominant	50T +/- 10	50	Normal
	Motor speed: non-dominant	50T +/- 10	48	Normal
	Psychomotor: bilateral abilities	50T +/- 10	47	Normal
	Psychomotor: response speed	50T +/- 10	55	Normal
	<b>Sequencing: simple</b>	50T +/- 10	35	<b>Abnormal</b>
	<b>Sequencing: complex</b>	50T +/- 10	27	<b>Abnormal</b>
	Executive reasoning	50T +/- 10	60	Normal
<b>Attention</b>	Attention: complex (language)	50T +/- 10	60	Normal
	<b>Attention: complex (non-language)</b>	50T +/- 10	35	<b>Abnormal</b>
	Inattentiveness	50T +/- 10	50/46/51/49/52/49	Normal
	Impulsivity	50T +/- 10	49/51/48	Normal
	Sustained difficulties	50T +/- 10	47	Normal
	<b>Vigilance difficulties</b>	50T +/- 10	69	<b>Abnormal (mild)</b>
<b>Memory</b>	Verbal recall: immediate	50T +/- 10	66	Normal
	Verbal recall: short and long delay	50T +/- 10	65/65	Normal
	Visual recall: immediate	50T +/- 10	61	Normal
	<b>Visual recall: short and long delay</b>	50T +/- 10	58/38	Normal/ <b>Abnormal</b>

Jessica Ramsay  
Page 3

Psychological	Health concerns	50T +/- 10	64	<b>Abnormal: mild</b>
	Anxiety: generalized	50T +/- 10	47	Normal
	Anxiety: focused	50T +/- 10	51	Normal
	Depression	50T +/- 10	67	<b>Abnormal: moderate</b>
	Acute stress	50T +/- 10	41	Normal
	Inefficient thinking	50T +/- 10	73	<b>Abnormal: significant</b>

### Summary

1. Abnormal intellectual study
  - a. Intellectual *ability* is in the *Very Superior* range (98<sup>th</sup> percentile) compared to same-aged peers.
  - b. Intellectual *efficiency* is only *Average* (34<sup>th</sup> percentile) compared to same-aged peers, hence reflects a statistically significant weakness in the intellectual study.
  - c. The profile suggests equal bilateral aptitude on tasks known to be sensitive to both the left and right cerebral hemispheres.
  - d. The pattern reflects a statistically significant and clinically relevant weakness on measures contributing to cerebral response speed, with subsequent implications for learning new information and responding to assessments under timed conditions.
  - e. The IQ pattern is consistent with the patient's/parent's report of premorbid functioning, suggesting a preexisting developmental delay.
2. Normal achievement study. Reading, spelling and arithmetic are normal to above normal and consistent with past education.
3. Borderline abnormal neurocognitive study.
  - a. Abnormal performance is observed on measures of sequencing/cognitive shifting, sustained complex attention, and quickness of thinking (as noted above) affecting mental flexibility, cognitive efficiency and inattention with subsequent implications for learning new information and responding to assessments under timed conditions.
  - b. Performance is otherwise consistent with or supersedes age-, gender-, and education-weighted norms.

Jessica Ramsay

Page 4

4. Abnormal psychological study
  - a. Elevations are observed on clinical scales associated with ill health and depression.
  - b. Subscale analysis reflects significant focus and worry about personal health, feelings of failure, indecisiveness and difficulties with concentration (cognitive inefficiency), physiological symptoms associated with depression (low energy, sleep/appetite disturbance, and difficulties with concentration, decision-making, memory/learning).
  - c. Emotional difficulties exacerbate the above-noted existing limitations (thought processes), and have subsequent implications for learning new information and responding to assessments under timed conditions.

### **Clinical Impression**

1. By history:
  - a. Attention deficit disorder
  - b. Learning difficulties affecting ability to pass standardized testing
2. By diagnostic testing:
  - a. Attention deficit disorder, hyperactive, moderate (F90.1)
  - b. Learning disability, nonverbal (abnormal scanning and processing speed) (F81.9)

### **Plan**

1. Graphic findings and report to patient.
2. Copy of findings to patient.
3. Continue with specialized cognitive medication (dextroamphetamine) to assist with inattention, if not medically contraindicated. I defer to the patient's primary care provider who is Dr. Houtman for consideration of this recommendation. Alternatively, I can provide psychiatric consultation through my clinic as part of a conjoint psychotherapy-psychiatric treatment for the patient.
4. Continue with medication to address emotional difficulties (zolpidem, alprazolam, and buspirone).
  - a. The present study indicates that the patient's current psychological medication regimen is adequately effective, as elevations on clinical scales of depression are only approximately one and a half standard deviations greater than the average range.
  - b. At present, these medications are provided by Dr. Houtman.
  - c. If needed, I am happy to provide psychiatric assistance through my clinic as part of conjoint psychotherapy-psychiatric medication treatment for the patient.

Jessica Ramsay

Page 5

5. Consider psychotherapy to address mood disturbance and modulate affect.
6. Patient requests accommodations and written responses to a series of guidelines toward test accommodations for the United States Medical Licensing Examination (USMLE), Step 1. Guidelines provided by the patient were reviewed and the following accommodations are recommended:
  - a. Fifty percent additional time to complete the examination or 100 percent additional time (double time) for an exam given over two days to compensate for slowed thought processing
  - b. Two additional breaks during the examination to compensate for difficulties managing mood/stress.
  - c. A separate and/or quiet area to complete the examination to compensate for inattention and distractibility.
7. The patient did not have accommodations for the MCAT and as a result scores reflect her inefficiency and slowed reading.
8. The patient is not at risk for operating a motor vehicle.
9. Consider a memory notebook to assist with organization and improve attention.
10. Recheck in 12 months to assist primary care in monitoring mental status.
11. Consider re-examination in 24 months for comparative analysis to baseline.
12. Discussed issues of safety and surrogate decision making, provided education regarding the diagnosis and management of health behavior changes, and directed to additional resources for support.
13. I remain available to patient regarding assessment and treatment needs.
14. I remain available to Dr. Houtman as the patient's primary care physician at any time regarding these findings.



Alan G. Lewandowski, PHD, FACP

Clinical Psychologist

Board Certified in Neuropsychology

Clinical Assistant Professor, Western Michigan University

Department of Psychiatry, Western Michigan University School of Medicine

Psychology Department

Department of Counseling Psychology and Counselor Education

College of Health and Human Services (SPADA)

Department of Military Science and Leadership

AGI: la

## Neuropsychology Associates

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*Psychiatry*  
Bangalore Ramesh, MD  
*Psychiatry*  
Katelyn Briggs, MA  
*Psychotherapist*

### Addendum

Name: Jessica Ramsay (DOB: 08/29/1990)

Date: February 7, 2018

Re: Names of specific measures used in the neuropsychological examination of Jessica Ramsay on December 7, 2017

Weschler Adult Intellectual Scale, 4<sup>th</sup> edition, Wide Range Achievement Test 4<sup>th</sup> edition, Sensory Perceptual Examination, Tactile Finger Recognition Test, Finger-tip Number Writing Test, Tactile Form Recognition Test, California Verbal Learning Test, 2<sup>nd</sup> edition, Rey Osterrieth Complex Figure Test, Tactile Form Recognition Test, Grip Strength Test, Finger Oscillation, Tactual Performance Test, Trail Making Test A, Trail Making Test B, Category Test, Seashore Rhythm Test, Speech Sounds Perception Test, Personality Assessment Inventory, Aphasia Screening Test.



Neuropsychology Associates

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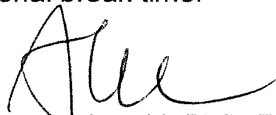
Kevin Kunzer, MD  
*Psychiatry*  
Bangalore Ramesh, MD  
*Psychiatry*  
Katelyn Briggs, MA  
*Psychotherapist*

May 23, 2018

Jessica Ramsay  
6862 Tall Oaks Drive  
Kalamazoo, MI 49009

Dear Jessica,

I am responding to your request for further clarification on the neuropsychological examination completed December 7, 2017. Regarding accommodations for the USMLE Step 1, and given your additional description of the requirements of the examination, my recommendations should have read, 100% additional testing time (double time), plus additional break time.



Alan Lewandowski, PhD, FACP  
Board Certified Neuropsychologist

**Exhibit E**

**Letter from Constance Farmer, Psy.D.  
dated 2/14/2019**



National Board of Medical Examiners  
3750 Market Street  
Philadelphia, PA 19104-3102

215-590-9500 phone  
www.nbme.org

### **Confidential**

February 14, 2019

**Via E-mail to [jessica.ramsay@med.wmich.edu](mailto:jessica.ramsay@med.wmich.edu)**

Jessica E. Ramsay  
6862 Tall Oaks Dr  
Apt 3B  
Kalamazoo, MI 49009

RE: USMLE Step 1

USMLE ID#: 5-366-431-4

Dear Ms. Ramsay:

We have thoroughly reviewed your request for reconsideration of our decision regarding test accommodations for the United States Medical Licensing Examination (USMLE) Step 1. We conducted an individualized review of your request and supporting documentation in accordance with the guidelines set forth in the Americans with Disabilities Act (ADA).

The NBME carefully considers all evidence in determining whether an individual is substantially limited within the meaning of the ADA and what, if any, accommodations are appropriate to the particular Step exam context. Submitted documentation including the individual's personal statements; letters from providers and advocates; and objective information such as school records and scores obtained on high stakes tests taken with and without accommodations are thoroughly reviewed.

Supporting documentation submitted from qualified professionals is a necessary part of any request for accommodations and is carefully reviewed by the NBME. Though not required to defer to the conclusions or recommendations of an applicant's supporting professional, we carefully consider the recommendation of qualified professionals made in accordance with generally accepted diagnostic criteria and supported by reasonable documentation.

In a November 6, 2018 report of Neuropsychological Evaluation for Learning Problems, Robert D. Smith, Ph.D. writes that you sought evaluation as part of your appeal for testing accommodations for the USMLE. Dr. Smith writes, "*Jessica's basic reading skills are within the average range when not limited by time restriction as measured by the WIAT-III Basic Reading Composite score of 96, which is higher than 39% of other adults her age...The WJ-4 [sic] Reading Rate Cluster and the Nelson-Denny Reading Test are measures of silent reading fluency that rely on the number of correct responses to reading comprehension items completed within a time limit...Jessica was only able to read three of the seven NDRT passages and attempted only 47% of the 38 Comprehension items on the standard-time Comprehension administration. She correctly answered 94% of the Comprehension items she attempted...In addition, Jessica's Nelson-Denny Rate score was lower than 99% of high school seniors...Jessica's pattern of reading scores is consistent with the pattern typically exhibited by dyslexic readers who have developed strategies to compensate for their reading impairment...She has been able to acquire an average level of reading comprehension skills when allowed sufficient time to employ compensatory strategies, but exhibits persistently impaired reading rate and reading fluency compared to other adults her age, as reflected on WJ-4 [sic] Reading Rate Cluster, the GORT-5 Fluency and the Nelson-Denny Rate and Comprehension...Jessica has been able to perform well academically, but has had to rely on extraordinary compensatory strategies in order to do so.*"

Although your evaluator appears to accept your exceptionally low scores on timed reading tests administered for the purpose of requesting test accommodations as valid and credible, your average and above average range performances on timed standardized tests taken for the purpose of gaining admission to college and medical school demonstrate that your skills are better than most people in the general population. Regarding your performance on the MCAT taken under standard time conditions, Dr. Smith reports that you relied on strategies such as answering questions before reading the passages, a common strategy recommended by prep courses and utilized by savvy students. He writes, “...Jessica was able to obtain a good score in the 79<sup>th</sup> percentile (30M) of students who take the exam. This, however, was not the exceptional MCAT scores that would have been expected with her intelligence and understanding of the material. Jessica’s performance on the MCAT component sections reflected her relative weakness specific to reading tasks with a Verbal Reasoning score at the 67<sup>th</sup> percentile, a Physical Sciences score at the 79<sup>th</sup> percentile and a Biological Sciences score at the 88<sup>th</sup> percentile...While her scores on the ACT and the MCAT were good, she may have scored significantly higher if she had taken these tests with accommodations of a separate room and extended time.”

It’s not uncommon for students to feel disappointed when they do not achieve the score they expected and believe that they could or would have obtained an exceptional score with additional testing time. Benefiting from additional time is not evidence of need for accommodations or evidence of a disability. Research shows that extended time accommodations benefit students without<sup>1</sup> disabilities, and are viewed as beneficial by most nondisabled postsecondary students<sup>2</sup> contemplating taking high-stakes standardized tests.

Accommodations are provided when there is clear and credible documentation of functional impairment and a rationale to demonstrate that the requested accommodation is appropriate to the setting and circumstance. Your documentation with regard to learning disabilities and ADHD offers no objective evidence of impaired reading or pervasive ADHD symptoms that limited any major life activity compared to most people in the general population. Your request for reconsideration provided no new substantive information or evidence that alters our decision communicated in my September 11, 2018 letter notifying you that you that we will provide the following accommodation(s) for the USMLE Step 1 for which you are currently registered:

- **Additional break time - testing over two days:** The exam will be administered over two days. Day one will be 5 hours in length and will include a 15 minute tutorial and 7 blocks with approximately 20 questions per block. Day two will be 4 hours 45 minutes in length and will include 7 blocks with approximately 20 questions per block. You will have up to 30 minutes to complete each block. You will receive 75 minutes of break time each day, including lunch. You may use break time as needed between blocks. If you complete the tutorial or an examination block in less time than allotted, the unused time will be added to your available break time.
- **Separate testing room in which you may stand, walk or stretch during exam**
- **Permission to read aloud**

Sincerely,



Catherine Farmer, Psy.D.  
Director, Disability Services  
ADA Compliance Officer, Testing Programs

C: Lawrence D. Berger, Esq. via e-mail to [larry@rcglawoffices.com](mailto:larry@rcglawoffices.com)

<sup>1</sup> See, for instance, Cahan, S., Nirel, R., & Alkoby, M. (2016). The Extra-Examination Time Granting Policy: A Reconceptualization. *Journal of Psychoeducational Assessment*, 34(5), 461-472.

<sup>2</sup> See Lewandowski, L., Lambert, T. L., Lovett, B. J., Panahon, C. J., & Sytsma, M. R. (2014). College students’ preferences for test accommodations. *Canadian Journal of School Psychology*, 29(2), 116-126.